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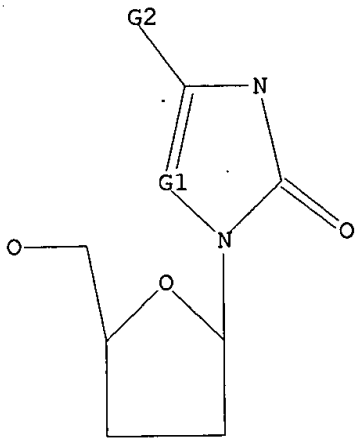

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L3 37 SEA FILE=CAPLUS ABB=ON PLU=ON L2

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L3 ANSWER 1 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:168008 CAPLUS
DOCUMENT NUMBER: 134:208064
TITLE: Preparation of nucleotides as substrates for exonuclease free Klenow fragment DNA polymerase I
INVENTOR(S): Smith, Clifford; Cummins, William Jonathan; Nairne, Robert James Domett
PATENT ASSIGNEE(S): Nycomed Amersham PLC, UK
SOURCE: PCT Int. Appl., 63 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001016150	A2	20010308	WO 2000-GB3301	20000830
WO 2001016150	A3	20011115		

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EP 1208109 A2 20020529 EP 2000-958770 20000830
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JP 2003508406 T2 20030304 JP 2001-519713 20000830
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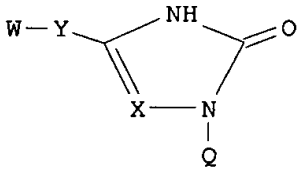

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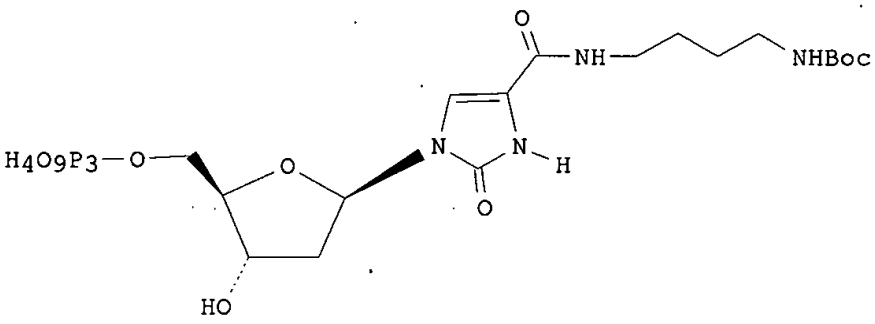


II

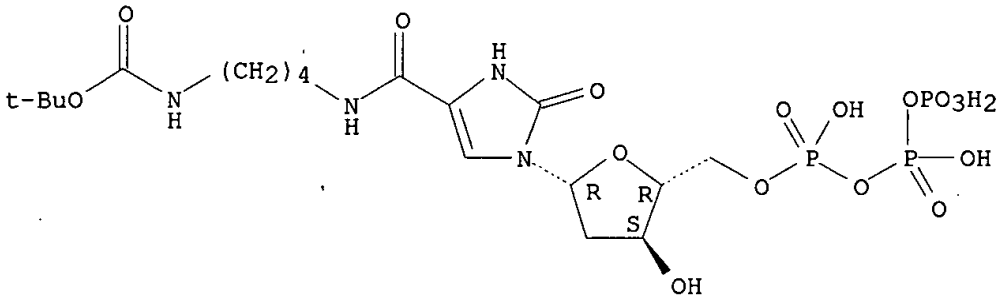
AB Nucleotides I where X is CH or N, Y is CO, CONW, O, S, SO, SO2, NWCO, NW, or OCO, W is the same or different at different places in the mol. and each is H or alkyl or aryl or Rp or Ln-Rp, Ln is a linker group, Rp is a reporter moiety, and Q is a sugar or a sugar analog or a nucleic acid backbone or backbone analog, provided that at least one reporter moiety Rp is present, provide nucleotide triphosphates which are good enzyme substrates. Thus, nucleotide triphosphate II was prepared and used to evaluate as a substrate for exonuclease free Klenow fragment DNA polymerase I (no data).

IT **328116-16-1P 328116-19-4P 328240-68-2P**
RL: BPR (Biological process); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(preparation of nucleotides as substrates for exonuclease free Klenow fragment DNA polymerase I)

RN 328116-16-1 CAPLUS

CN Carbamic acid, [4-[[[1-[2-deoxy-5-O-[hydroxy[[hydroxy(phosphonooxy)phosphinyl]oxy]phosphinyl]-β-D-erythro-pentofuranosyl]-2,3-dihydro-2-oxo-1H-imidazol-4-yl]carbonyl]amino]butyl]-, C-(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 328116-19-4 CAPLUS
CN 1H-Imidazole-4-carboxamide, N-(4-aminobutyl)-1-[2-deoxy-5-O-[hydroxy[[hydroxy(phosphonooxy)phosphinyl]oxy]phosphinyl]-β-D-erythro-pentofuranosyl]-2,3-dihydro-2-oxo-, mono(trifluoroacetate) (salt) (9CI) (CA INDEX NAME)

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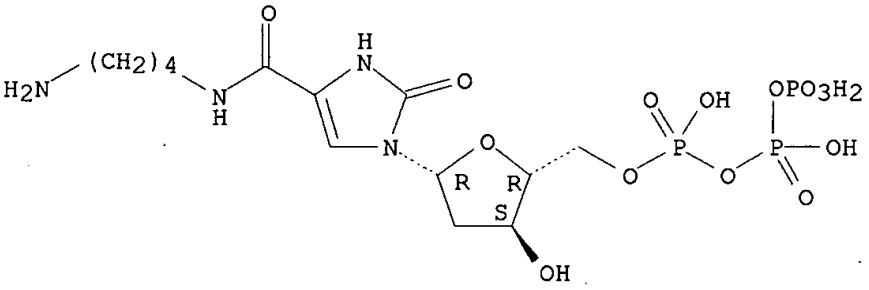
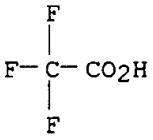
CRN 328116-18-3
CMF C13 H25 N4 O14 P3

Absolute stereochemistry.



CM 2

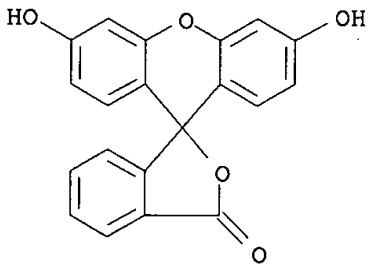
CRN 76-05-1
CMF C2 H F3 O2



RN 328240-68-2 CAPLUS
CN 1H-Imidazole-4-carboxamide, 1-[2-deoxy-5-O-[hydroxy[[hydroxy(phosphonooxy)phosphinyl]oxy]phosphinyl]-β-D-erythro-pentofuranosyl]-N-[4-[[6-[[[3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-5(or

6)-yl]carbonyl]amino]-1-oxohexyl]amino]butyl]-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

PAGE 1-A



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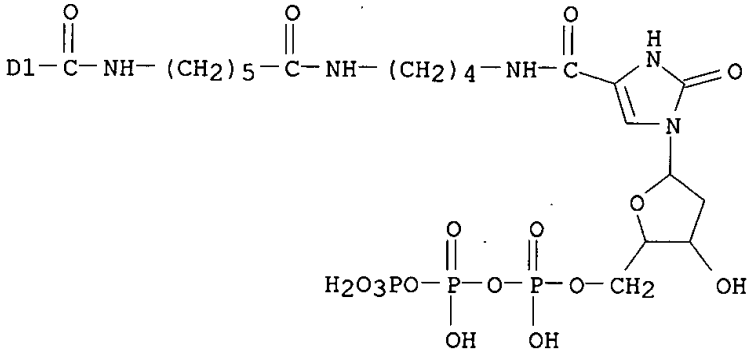
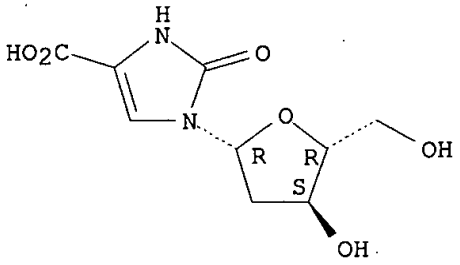


IT **20406-83-1P 163484-43-3P 328116-14-9P**
328116-33-2P 328116-34-3P 328116-35-4P
328116-36-5P 328116-37-6P 328116-38-7P
328116-39-8P 328116-40-1P 328116-41-2P
328116-42-3P 328116-43-4P 328116-44-5P
328116-45-6P 328116-46-7P 328116-47-8P
328116-48-9P 328116-49-0P 328116-50-3P
328116-51-4P 328116-52-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of nucleotides as substrates for exonuclease free Klenow fragment DNA polymerase I)

RN 20406-83-1 CAPLUS

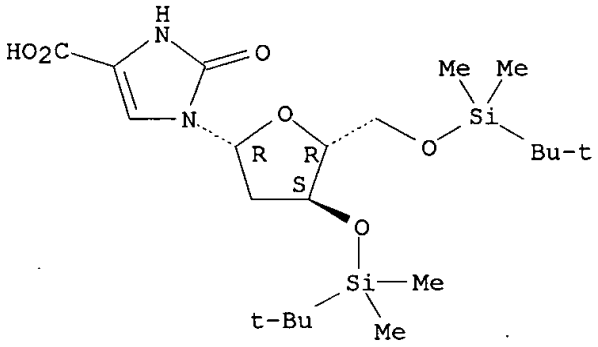
CN 1H-Imidazole-4-carboxylic acid, 1-(2-deoxy-β-D-erythro-pentofuranosyl)-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



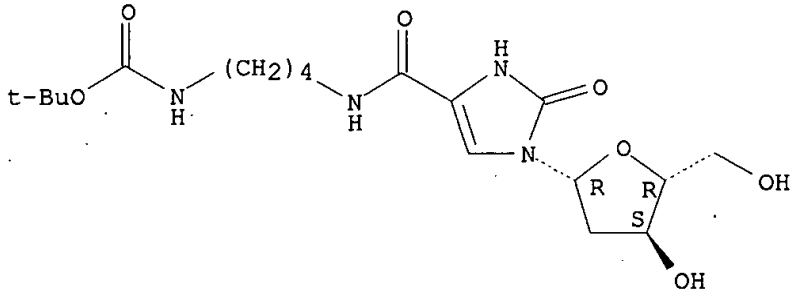
RN 163484-43-3 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 1-[2-deoxy-3,5-bis-O-[(1,1-dimethylethyl)dimethylsilyl]-β-D-erythro-pentofuranosyl]-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 328116-14-9 CAPLUS
CN Carbamic acid, [4-[[[1-(2-deoxy-β-D-erythro-pentofuranosyl)-2,3-dihydro-2-oxo-1H-imidazol-4-yl]carbonyl]amino]butyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

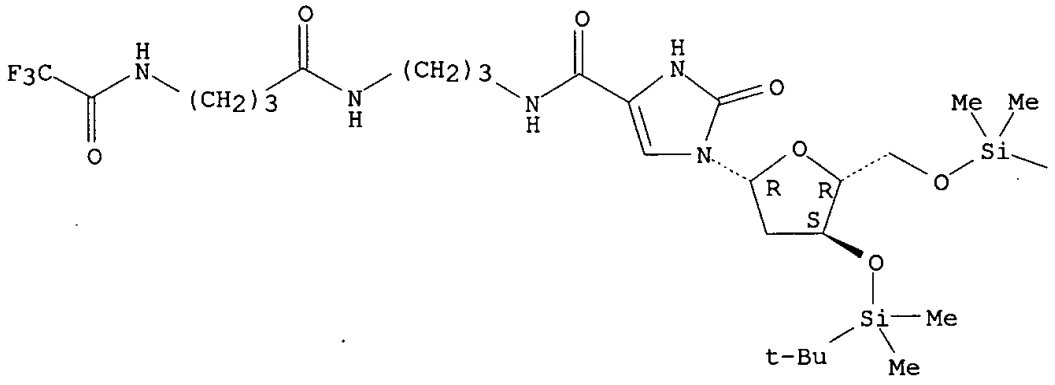
Absolute stereochemistry.



RN 328116-33-2 CAPLUS
CN 1H-Imidazole-4-carboxamide, 1-[2-deoxy-3,5-bis-O-[(1,1-dimethylethyl)dimethylsilyl]-β-D-erythro-pentofuranosyl]-2,3-dihydro-2-oxo-N-[3-[[1-oxo-4-[(trifluoroacetyl)amino]butyl]amino]propyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

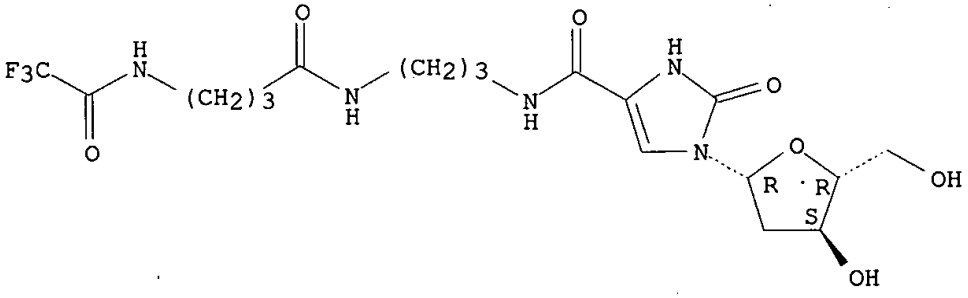


PAGE 1-B

Bu-t

RN 328116-34-3 CAPLUS
CN 1H-Imidazole-4-carboxamide, 1-(2-deoxy-β-D-erythro-pentofuranosyl)-2,3-dihydro-2-oxo-N-[3-[[1-oxo-4-[(trifluoroacetyl)amino]butyl]amino]propyl]- (9CI) (CA INDEX NAME)

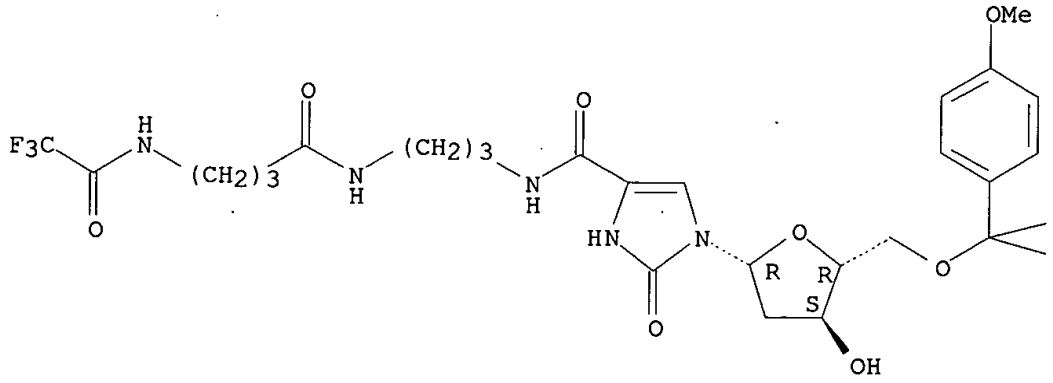
Absolute stereochemistry.



RN 328116-35-4 CAPLUS
CN 1H-Imidazole-4-carboxamide, 1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-2-deoxy-β-D-erythro-pentofuranosyl]-2,3-dihydro-2-oxo-N-[3-[[1-oxo-4-[(trifluoroacetyl)amino]butyl]amino]propyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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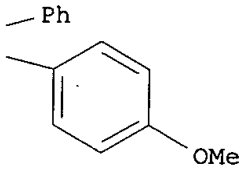
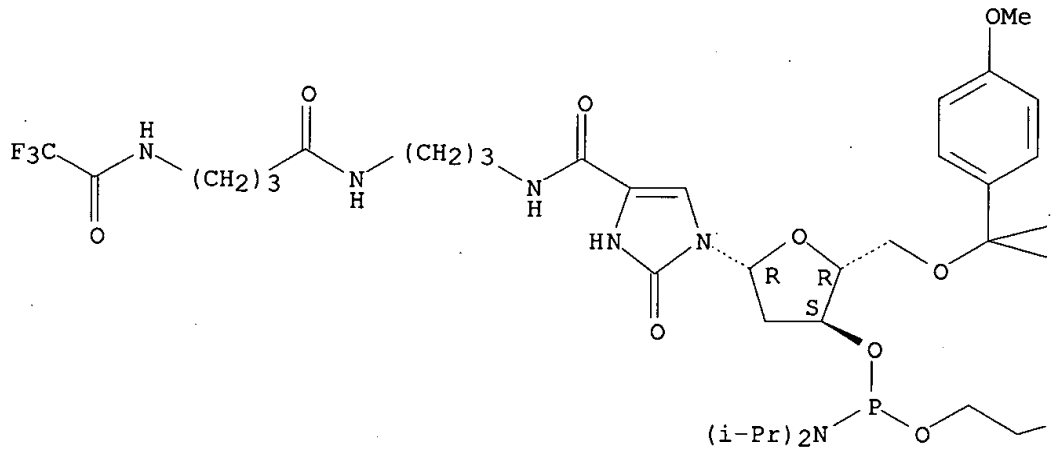


RN 328116-36-5 CAPLUS
CN 1H-Imidazole-4-carboxamide, 1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-β-D-erythro-pentofuranosyl]-2,3-dihydro-2-oxo-N-[3-[[1-oxo-4-[(trifluoroacetyl)amino]butyl]amino]propyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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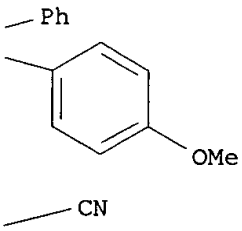
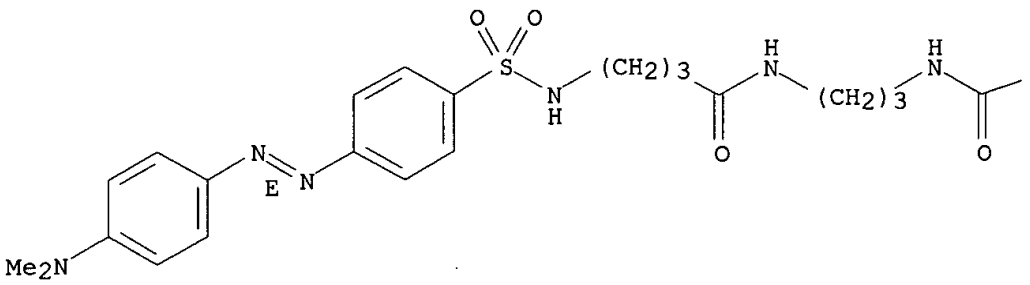


RN 328116-37-6 CAPLUS
CN 1H-Imidazole-4-carboxamide, 1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-β-D-erythro-pentofuranosyl]-N-[3-[[4-[[[4-[(1E)-[4-(dimethylamino)phenyl]azo]phenyl]sulfonyl]amino]-1-oxobutyl]amino]propyl]-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



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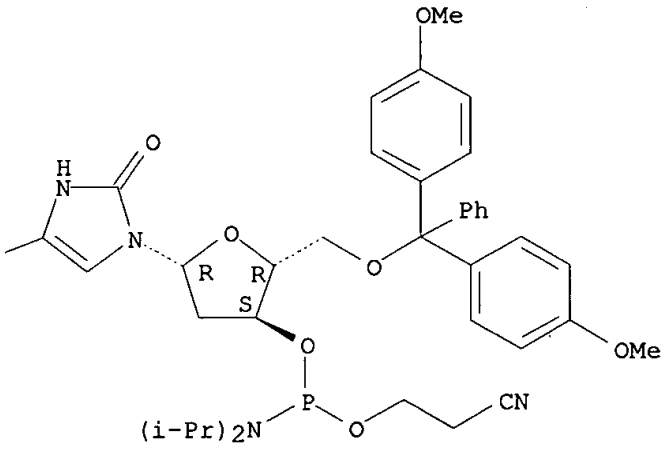
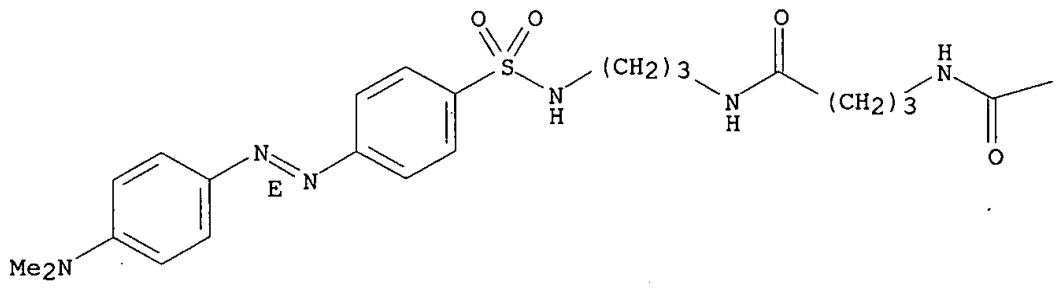


RN 328116-38-7 CAPLUS
CN 1H-Imidazole-4-carboxamide, 1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-β-D-erythro-pentofuranosyl]-N-[4-[[3-[[[4-[(1E)-[4-(dimethylamino)phenyl]azo]phenyl]sulfonyl]amino]propyl]amino]-4-oxobutyl]-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



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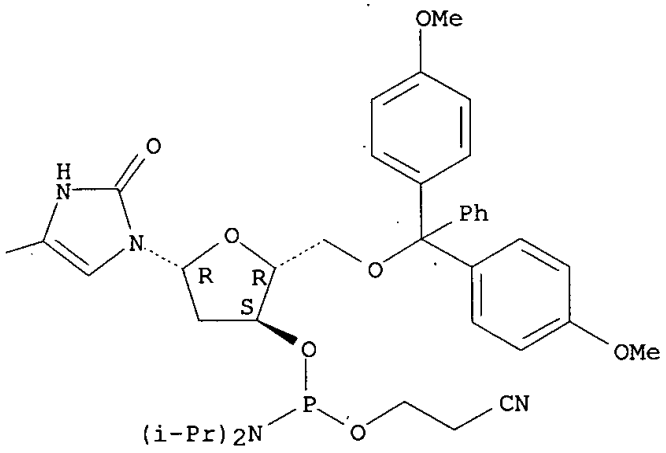
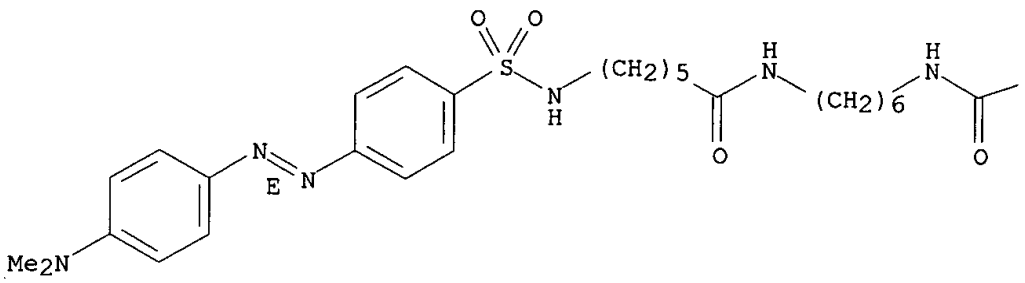


RN 328116-39-8 CAPLUS
CN 1H-Imidazole-4-carboxamide, 1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-β-D-erythro-pentofuranosyl]-N-[6-[[6-[[[4-[(1E)-[4-(dimethylamino)phenyl]azo]phenyl]sulfonyl]amino]-1-oxohexyl]amino]hexyl]-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



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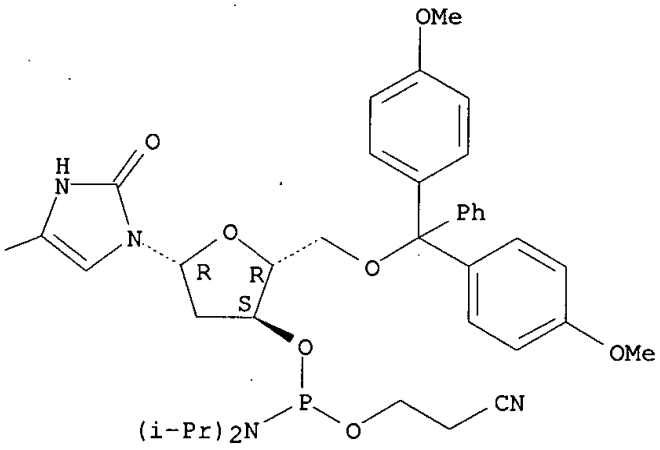
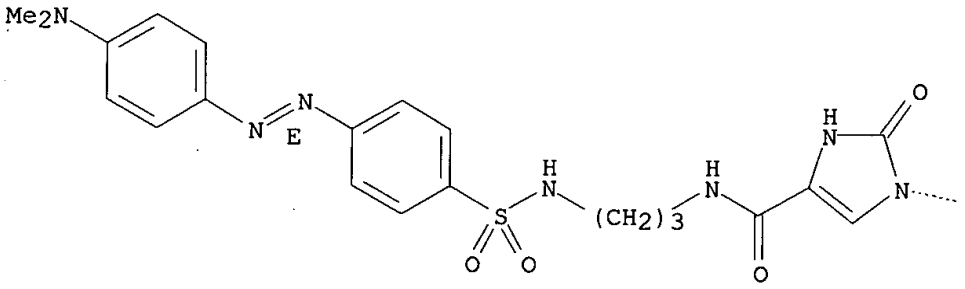


RN 328116-40-1 CAPLUS
CN 1H-Imidazole-4-carboxamide, 1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-2-deoxy-β-D-erythro-pentofuranosyl]-N-[3-[[[4-[(1E)-[4-(dimethylamino)phenyl]azo]phenyl]sulfonyl]amino]propyl]-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



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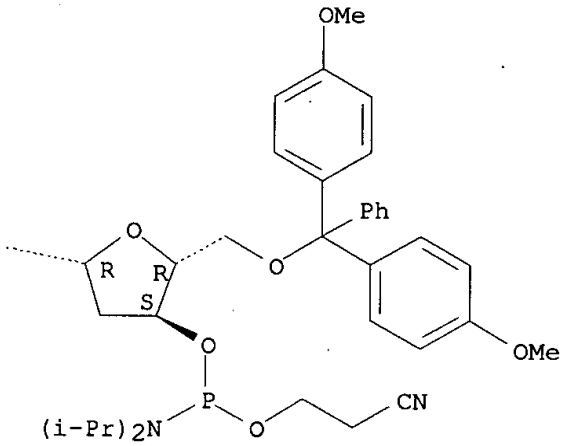
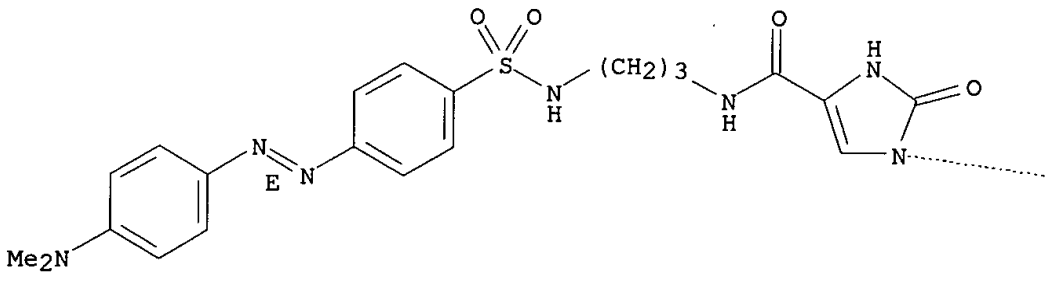


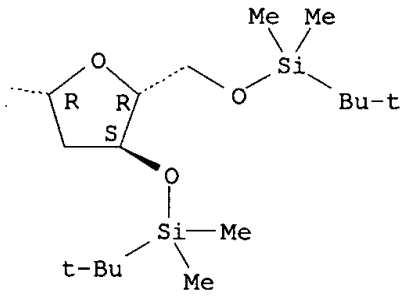
RN 328116-41-2 CAPLUS
CN 1H-Imidazole-4-carboxamide, 1-[2-deoxy-3,5-bis-O-[(1,1-dimethylethyl)dimethylsilyl]-β-D-erythro-pentofuranosyl]-N-[3-[[[4-[(1E)-[4-(dimethylamino)phenyl]azo]phenyl]sulfonyl]amino]propyl]-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



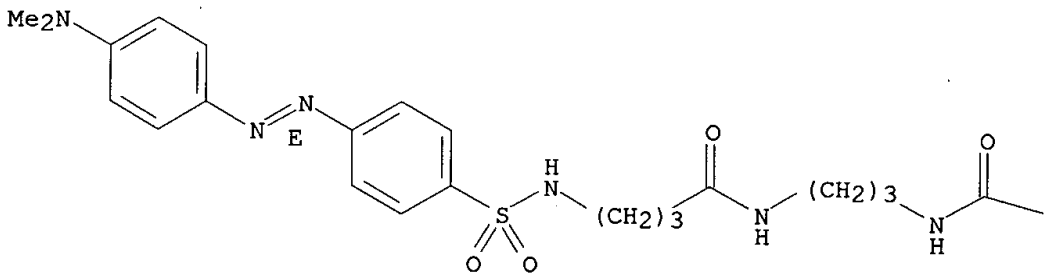
PAGE 1-B



RN 328116-42-3 CAPLUS
CN 1H-Imidazole-4-carboxamide, 1-[2-deoxy-3,5-bis-O-[(1,1-dimethylethyl)dimethylsilyl]-β-D-erythro-pentofuranosyl]-N-[3-[[4-[[[4-[(1E)-[4-(dimethylamino)phenyl]azo]phenyl]sulfonyl]amino]-1-oxobutyl]amino]propyl]-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



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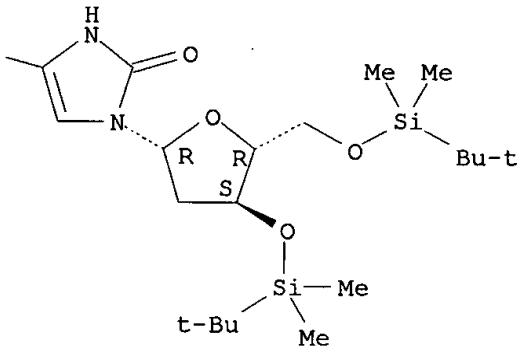

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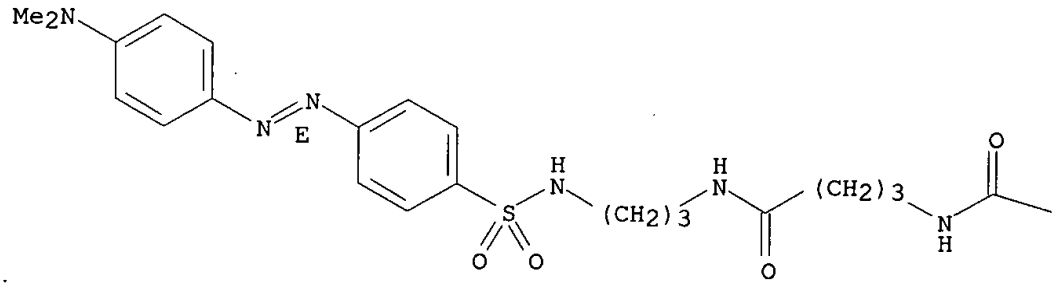
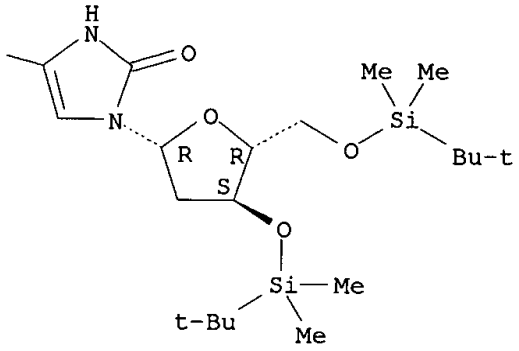
CN 1H-Imidazole-4-carboxamide, 1-[2-deoxy-3,5-bis-O-[(1,1-dimethylethyl)dimethylsilyl]-β-D-erythro-pentofuranosyl]-N-[4-[[3-[[[4-[(1E)-[4-(dimethylamino)phenyl]azo]phenyl]sulfonyl]amino]propyl]amino]-4-oxobutyl]-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



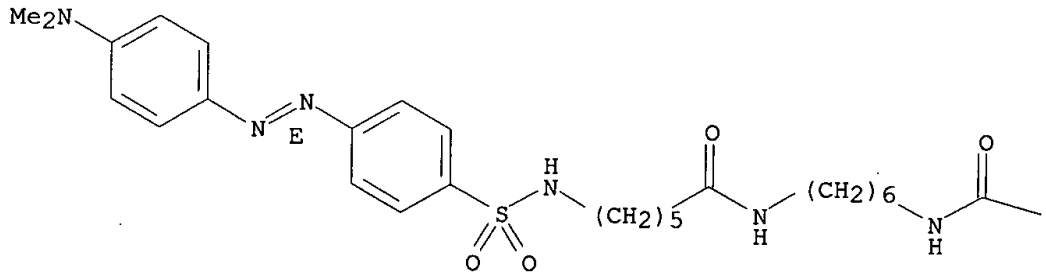
PAGE 1-B



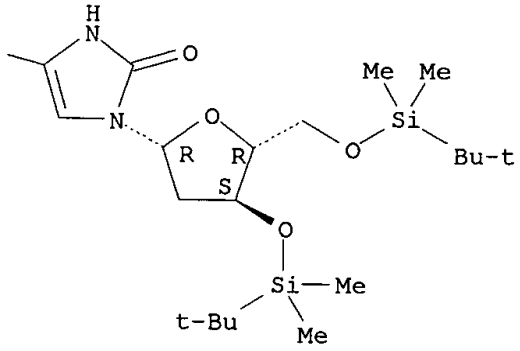
RN 328116-44-5 CAPLUS
CN 1H-Imidazole-4-carboxamide, 1-[2-deoxy-3,5-bis-O-[(1,1-dimethylethyl)dimethylsilyl]-β-D-erythro-pentofuranosyl]-N-[6-[[6-[[[4-[(1E)-[4-(dimethylamino)phenyl]azo]phenyl]sulfonyl]amino]-1-oxohexyl]amino]hexyl]-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



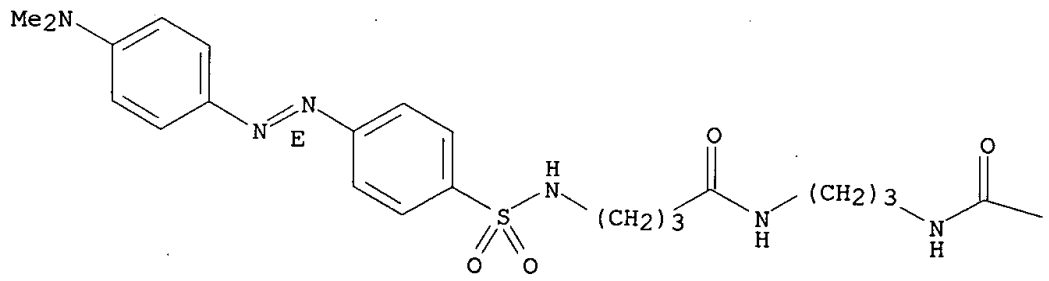
PAGE 1-B



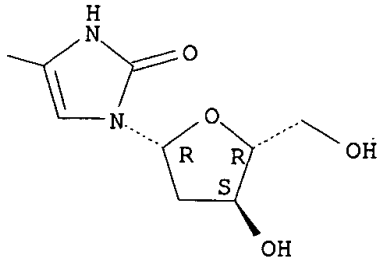
RN 328116-45-6 CAPLUS
CN 1H-Imidazole-4-carboxamide, 1-(2-deoxy-β-D-erythro-pentofuranosyl)-N-[3-[[4-[[[4-[(1E)-[4-(dimethylamino)phenyl]azo]phenyl]sulfonyl]amino]-1-oxobutyl]amino]propyl]-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



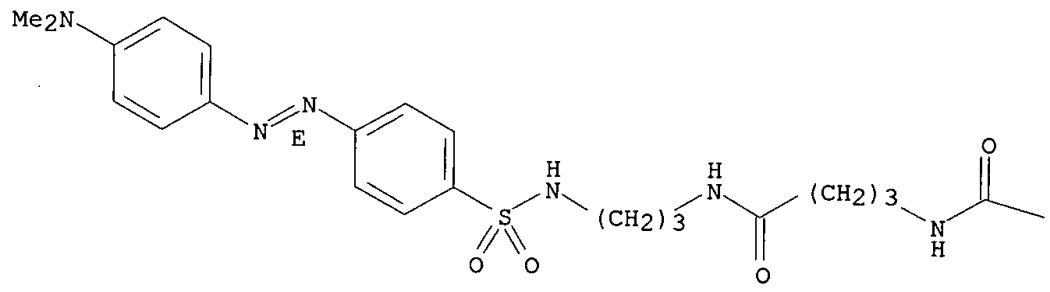
PAGE 1-B



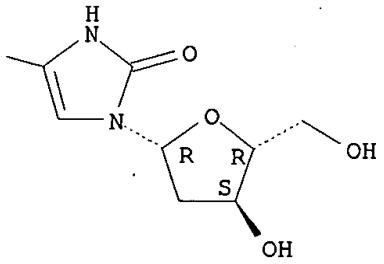
RN 328116-46-7 CAPLUS
CN 1H-Imidazole-4-carboxamide, 1-(2-deoxy-β-D-erythro-pentofuranosyl)-N-[4-[[3-[[[4-[(1E)-[4-(dimethylamino)phenyl]azo]phenyl]sulfonyl]amino]propyl]amino]-4-oxobutyl]-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



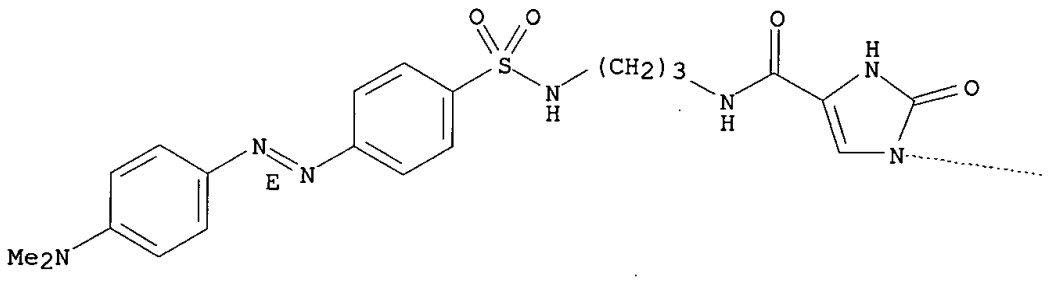
PAGE 1-B



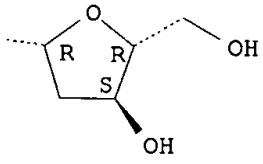
RN 328116-47-8 CAPLUS
CN 1H-Imidazole-4-carboxamide, 1-(2-deoxy-β-D-erythro-pentofuranosyl)-N-[3-[[[4-[(1E)-[4-(dimethylamino)phenyl]azo]phenyl]sulfonyl]amino]propyl]-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

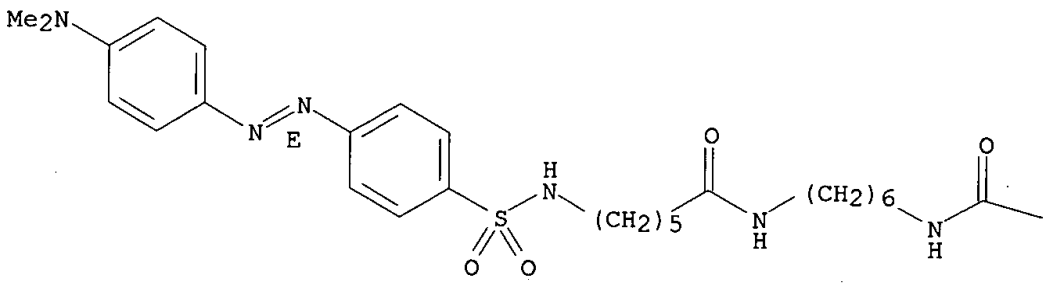


RN 328116-48-9 CAPLUS
CN 1H-Imidazole-4-carboxamide, 1-(2-deoxy-β-D-erythro-pentofuranosyl)-N-[6-[[6-[[[4-[(1E)-[4-(dimethylamino)phenyl]azo]phenyl]sulfonyl]amino]-1-

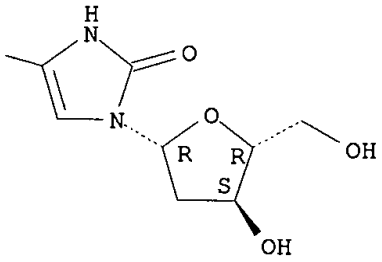
oxohexyl]amino]hexyl]-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



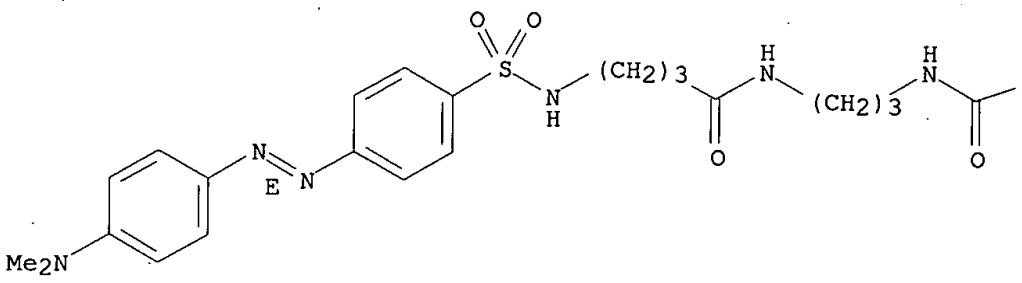
PAGE 1-B



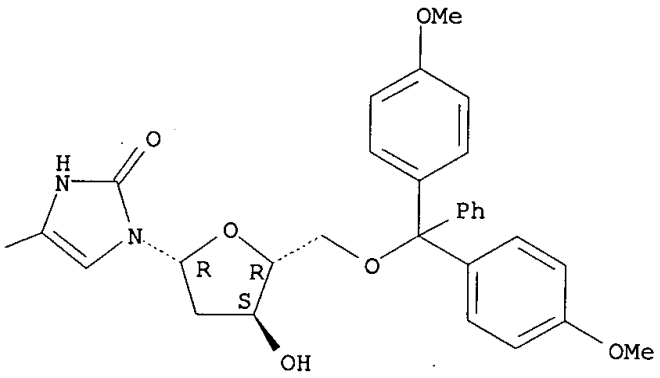
RN 328116-49-0 CAPLUS
CN 1H-Imidazole-4-carboxamide, 1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-2-deoxy-β-D-erythro-pentofuranosyl]-N-[3-[[4-[[[4-[(1E)-[4-(dimethylamino)phenyl]azo]phenyl]sulfonyl]amino]-1-oxobutyl]amino]propyl]-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



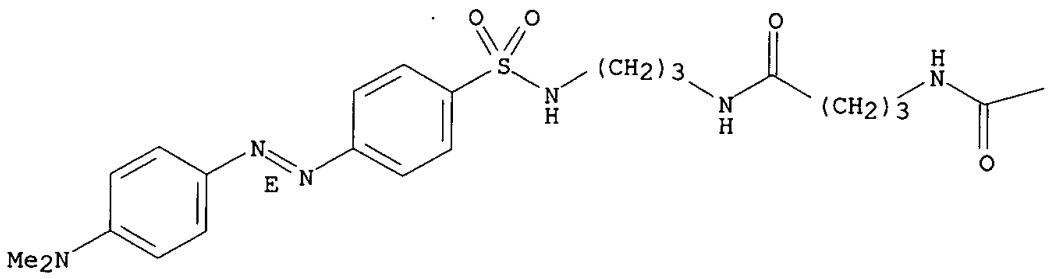
PAGE 1-B



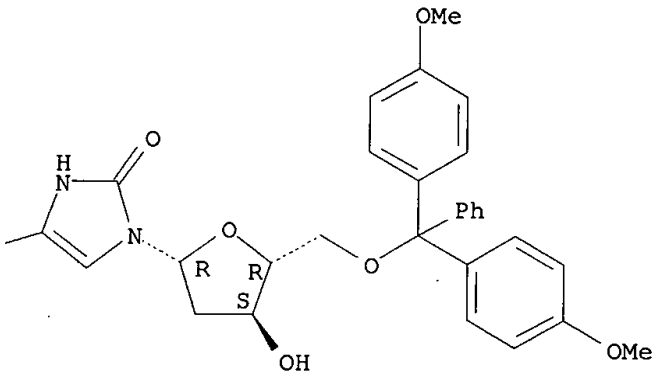
RN 328116-50-3 CAPLUS
CN 1H-Imidazole-4-carboxamide, 1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-2-deoxy-β-D-erythro-pentofuranosyl]-N-[4-[[3-[[[4-[(1E)-[4-(dimethylamino)phenyl]azo]phenyl]sulfonyl]amino]propyl]amino]-4-oxobutyl]-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



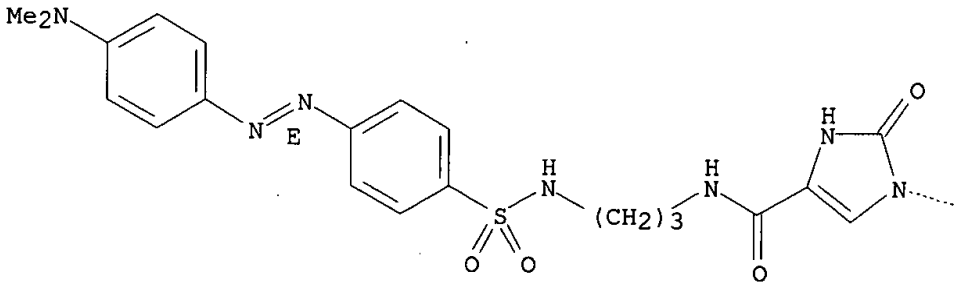
PAGE 1-B



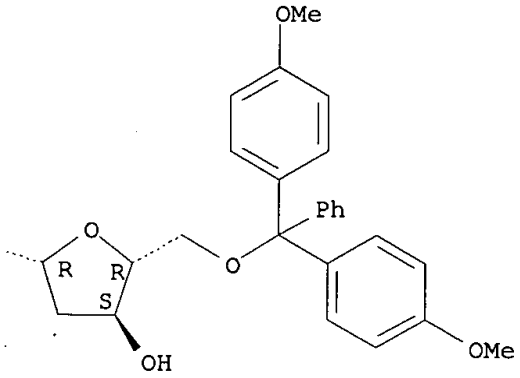
RN 328116-51-4 CAPLUS
CN 1H-Imidazole-4-carboxamide, 1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-2-deoxy-β-D-erythro-pentofuranosyl]-N-[3-[[[4-[(1E)-[4-(dimethylamino)phenyl]azo]phenyl]sulfonyl]amino]propyl]-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



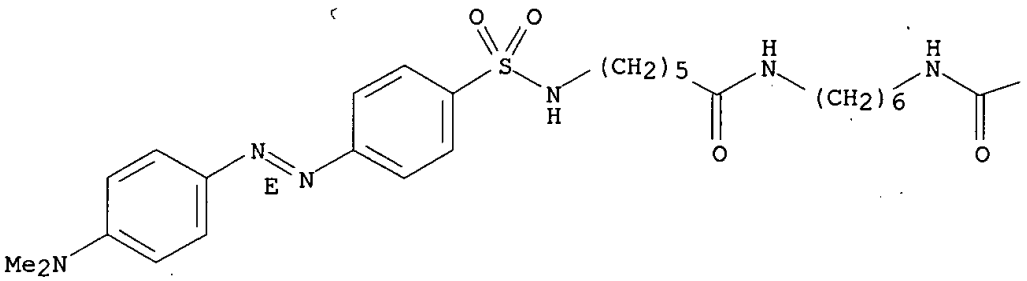
PAGE 1-B



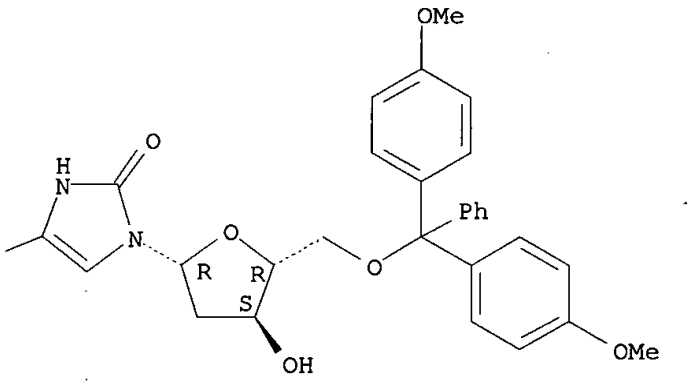
RN 328116-52-5 CAPLUS
CN 1H-Imidazole-4-carboxamide, 1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-2-deoxy-β-D-erythro-pentofuranosyl]-N-[6-[[6-[[[4-[(1E)-[4-(dimethylamino)phenyl]azo]phenyl]sulfonyl]amino]-1-oxohexyl]amino]hexyl]-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L3 ANSWER 2 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2000:291478 CAPLUS
DOCUMENT NUMBER: 133:203656
TITLE: A putative enolpyruvyl transferase gene involved in nikkomycin biosynthesis
AUTHOR(S): Lauer, Bettina; Sussmuth, Roderich; Kaiser, Dietmar; Jung, Gunther; Bormann, Christiane
CORPORATE SOURCE: University of Tubingen, Institute of Biology II, Microbiology/Biotechnology, Tubingen, D-72076, Germany
SOURCE: Journal of Antibiotics (2000), 53(4), 385-392
CODEN: JANTAJ; ISSN: 0021-8820
PUBLISHER: Japan Antibiotics Research Association
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The nikO gene encoding a putative enolpyruvyl transferase has been identified within the Streptomyces tendae Tu901/8c nikkomycin gene cluster. NikO encodes a deduced protein of 471 amino acid residues which

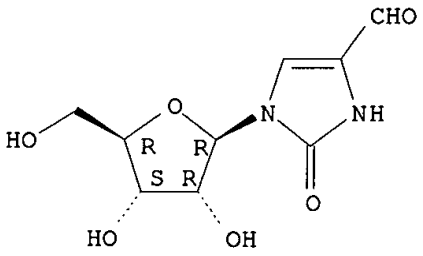
exhibits significant sequence similarity to UDP-N-acetylglucosamine enolpyruvyl transferase and 5-enol-pyruvylshikimate 3-phosphate synthase from various origin. The nikO gene was inactivated by inserting a kanamycin resistance cassette; the mutant did not produce biol. active nikkomycins I, J, X, and Z nor the nucleoside moieties, nikkomycins Cx and Cz, but accumulated the novel component RT 2.0. RT 2.0 has been isolated from culture filtrate and its structure was determined by using mass spectrometry and NMR analyses as ribofuranosyl-4-formyl-4-imidazolone which represents a novel nucleoside. The putative activity of the nikO gene product in nikkomycin biosynthesis will be discussed.

IT **289653-07-2**
RL: BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative)
(putative enolpyruvyl transferase gene involved in nikkomycin biosynthesis)

RN 289653-07-2 CAPLUS

CN 1H-Imidazole-4-carboxaldehyde, 2,3-dihydro-2-oxo-1-β-D-ribofuranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 3 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2000:277807 CAPLUS
DOCUMENT NUMBER: 132:281684
TITLE: Organic carbonate additives for nonaqueous electrolyte rechargeable cells
INVENTOR(S): Gan, Hong; Takeuchi, Esther S.
PATENT ASSIGNEE(S): Wilson Greatbatch Ltd., USA
SOURCE: Eur. Pat. Appl., 17 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 996187	A1	20000426	EP 1999-308280	19991020
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2000133306	A2	20000512	JP 1999-299974	19991021

PRIORITY APPLN. INFO.: US 1998-105280P P 19981022
US 1999-302773 A 19990430

OTHER SOURCE(S): MARPAT 132:281684

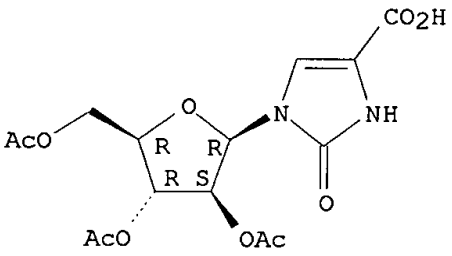
AB A lithium ion electrochem. cell having high charge/discharge capacity, long cycle life and exhibiting a reduced first cycle irreversible capacity, is disclosed. The stated benefits are realized by the addition of at least one carbonate additive to an electrolyte comprising an alkali metal salt dissolved in a solvent mixture that includes ethylene carbonate, di-Me carbonate, ethylmethyl carbonate and di-Et carbonate. The preferred additive is either a linear or cyclic carbonate containing covalent O-X and O-Y bonds on opposite sides of a carbonyl group wherein at least one of the O-X and the O-Y bonds has a dissociation energy less than about 80 kcal/mol.

IT **17245-48-6**
RL: MOA (Modifier or additive use); USES (Uses)
(organic carbonate additives for nonaq. electrolyte rechargeable cells)

RN 17245-48-6 CAPLUS

CN 1H-Imidazole-4-carboxylic acid, 2,3-dihydro-2-oxo-1-(2,3,5-tri-O-acetyl-β-D-arabinofuranosyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 4 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2000:222825 CAPLUS

DOCUMENT NUMBER: 133:145727

TITLE: Molecular characterization of two genes from Streptomyces tendae Tu901 required for the formation of the 4-formyl-4-imidazolin-2-one-containing nucleoside moiety of the peptidyl nucleoside antibiotic nikkomycin

AUTHOR(S): Lauer, Bettina; Russwurm, Roland; Bormann, Christiane

CORPORATE SOURCE: Mikrobiologie/Biotechnologie, Universitat Tubingen, Tubingen, D-72076, Germany

SOURCE: European Journal of Biochemistry (2000), 267(6), 1698-1706
CODEN: EJBCAI; ISSN: 0014-2956

PUBLISHER: Blackwell Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The genes nikQ and nikR were identified by sequencing DNA of the nikkomycin biosynthetic gene cluster from Streptomyces tendae Tu901/8c. The nikQ gene encodes a P 450 cytochrome, and the predicted NikR gene product shows 48-56% sequence identity with uracil phosphoribosyltransferases from eukaryotic organisms. The nikQ and nikR genes were inactivated sep. by insertion of a kanamycin-resistance

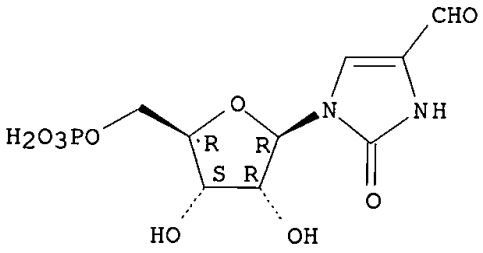
cassette. Inactivation of the nikQ gene abolished synthesis of nikkomycins containing 4-formyl-4-imidazolin-2-one as the base (nikkomycins X and I), whereas production of nikkomycins containing uracil (nikkomycins Z and J) was not affected. Nikkomycin X and I production could be restored by feeding 4-formyl-4-imidazolin-2-one to the nikQ mutants, indicating that NikQ is responsible for its formation from L-histidine. Disruption of the nikR gene resulted in formation of decreased amts. of nikkomycins X and I, whereas nikkomycins Z and J were synthesized at wildtype levels. A fluorouracil-resistant nikR mutant lacking uracil phosphoribosyltransferase (UPRTase) activity did not synthesize nikkomycins X and I and accumulated 4-formyl-4-imidazolin-2-one in its culture filtrate, whereas formation of nikkomycins Z and J was unimpaired. The mutant was complemented to nikkomycin X and I production by nikR expressed from the mel promoter of plasmid pIJ702. The nikR gene expressed in Escherichia coli led to the production of UPRTase activity. Our results indicate that NikR converts 4-formyl-4-imidazolin-2-one to yield 5'-phosphoribosyl-4-formyl-4-imidazolin-2-one, the precursor of nikkomycins containing this base.

IT **286938-42-9**
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process)
(Streptomyces tendae Tu901 genes in formation of 4-formyl-4-imidazolin-2-one-containing nucleoside moiety of peptidyl nucleoside antibiotic nikkomycin)

RN 286938-42-9 CAPLUS

CN 1H-Imidazole-4-carboxaldehyde, 2,3-dihydro-2-oxo-1-(5-O-phosphono-β-D-ribofuranosyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 5 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1999:448657 CAPLUS

DOCUMENT NUMBER: 131:223046

TITLE: Mechanism of inhibition of HIV reverse transcriptase by 1-(2-deoxy-β-D-ribofuranosyl)-4-acetylimidazolin-2-one (imidine)

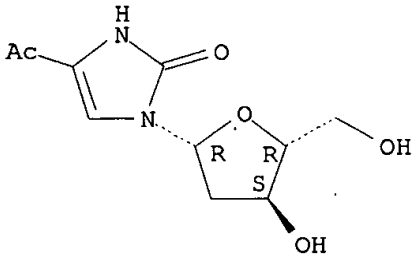
AUTHOR(S): Kalman, T. I.; Sen, K.; Jiang, X.-J.

CORPORATE SOURCE: Departments of Medicinal Chemistry and Biochemical Pharmacology, State University at New York, Buffalo, NY, 14260, USA

SOURCE: Nucleosides & Nucleotides (1999), 18(4 & 5), 847-848

CODEN: NUNUD5; ISSN: 0732-8311
PUBLISHER: Marcel Dekker, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Imidine, a structural isomer of thymidine, was designed as a potential anti-HIV agent based on the rationale that the lack of fidelity of HIV reverse transcriptase may result in misincorporation of the analog into viral DNA leading to increased unrepaired mispairing and inhibition of viral replication.
IT **156357-05-0**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(mechanism of inhibition of HIV reverse transcriptase by imidine)
RN 156357-05-0 CAPLUS
CN 2H-Imidazol-2-one, 4-acetyl-1-(2-deoxy-β-D-erythro-pentofuranosyl)-1,3-dihydro- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



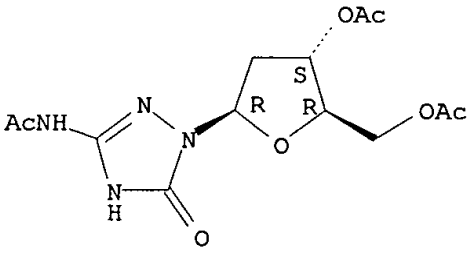
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 6 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1999:77150 CAPLUS
DOCUMENT NUMBER: 130:196903
TITLE: Novel 2'-deoxycytidine analogs as pH independent substitutes of protonated cytosines in triple helix forming oligonucleotides
AUTHOR(S): Bedu, Emeline; Benhida, Rachid; Devys, Michel; Fourrey, Jean-Louis
CORPORATE SOURCE: Institut de Chimie des Substances Naturelles, CNRS, Gif-sur-Yvette, 91190, Fr.
SOURCE: Tetrahedron Letters (1999), 40(5), 835-838
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 130:196903
AB The N-acetyl derivs. of the aminotriazole and amino-imidazole 2'-deoxynucleosides were synthesized as potential substitutes of protonated 2'-deoxycytidines within triple helix forming oligonucleotides for their recognition of DNA duplexes in a pH independent manner.
IT **220766-11-0P 220766-12-1P 220766-13-2P 220766-14-3P 220766-20-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

(Reactant or reagent)
(preparation and reaction of in the synthesis of novel deoxycytidine analogs)

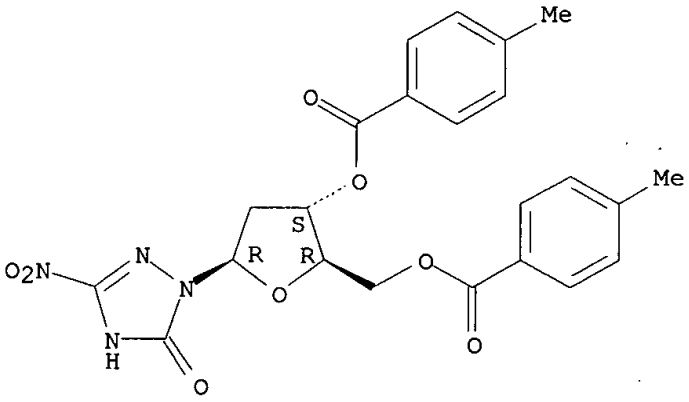
RN 220766-11-0 CAPLUS
CN Acetamide, N-[1-(3,5-di-O-acetyl-2-deoxy-β-D-erythro-pentofuranosyl)-2,5-dihydro-5-oxo-1H-1,2,4-triazol-3-yl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



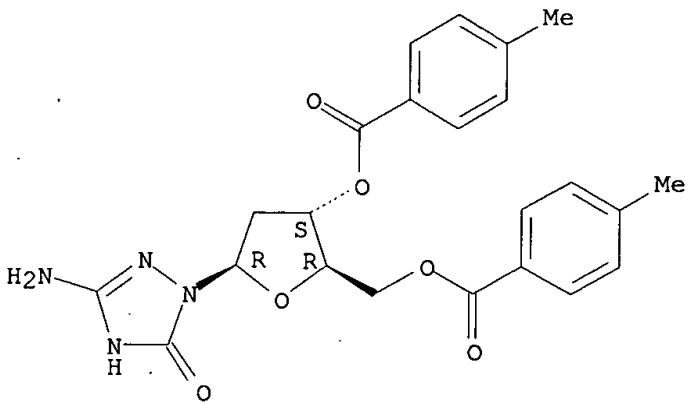
RN 220766-12-1 CAPLUS
CN 3H-1,2,4-Triazol-3-one, 2-[2-deoxy-3,5-bis-O-(4-methylbenzoyl)-β-D-erythro-pentofuranosyl]-1,2-dihydro-5-nitro- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



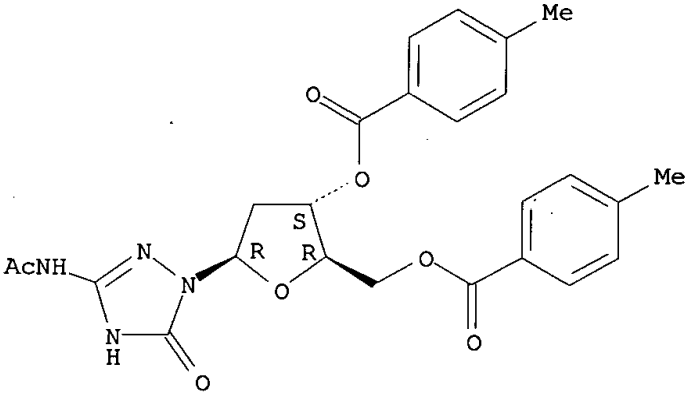
RN 220766-13-2 CAPLUS
CN 3H-1,2,4-Triazol-3-one, 5-amino-2-[2-deoxy-3,5-bis-O-(4-methylbenzoyl)-β-D-erythro-pentofuranosyl]-1,2-dihydro- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



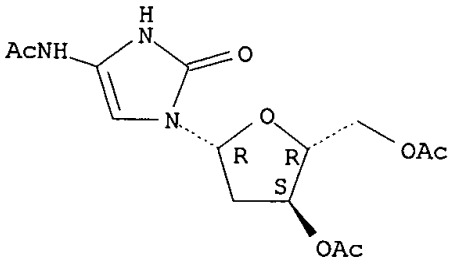
RN 220766-14-3 CAPLUS
CN Acetamide, N-[1-[2-deoxy-3,5-bis-O-(4-methylbenzoyl)-β-D-erythro-pentofuranosyl]-2,5-dihydro-5-oxo-1H-1,2,4-triazol-3-yl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 220766-20-1 CAPLUS
CN Acetamide, N-[1-(3,5-di-O-acetyl-2-deoxy-β-D-erythro-pentofuranosyl)-2,3-dihydro-2-oxo-1H-imidazol-4-yl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

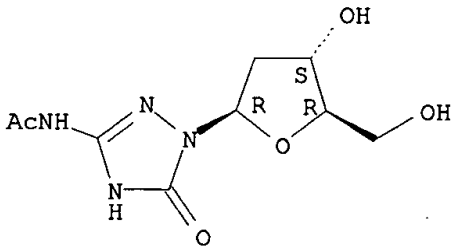


IT **220766-21-2P 220766-22-3P**

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of as novel deoxycytidine analogs for pH independent substitutes of protonated cytosines in triple helix forming oligonucleotides)

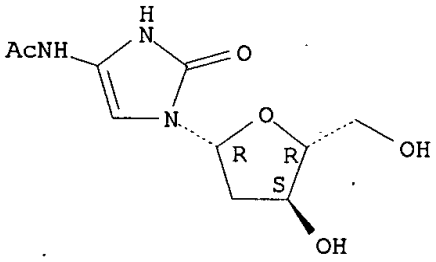
RN 220766-21-2 CAPLUS
CN Acetamide, N-[1-(2-deoxy-β-D-erythro-pentofuranosyl)-2,5-dihydro-5-oxo-1H-1,2,4-triazol-3-yl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 220766-22-3 CAPLUS
CN Acetamide, N-[1-(2-deoxy-β-D-erythro-pentofuranosyl)-2,3-dihydro-2-oxo-1H-imidazol-4-yl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 7 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1998:251019 CAPLUS
DOCUMENT NUMBER: 128:295005
TITLE: Preparation of monocyclic L-nucleosides analogs as antiinflammatory agents and cytokine modulators
INVENTOR(S): Ramasamy, Kandasamy; Tam, Robert; Averett, Devron
PATENT ASSIGNEE(S): ICN Pharmaceuticals, USA; Ramasamy, Kandasamy; Tam, Robert; Averett, Devron
SOURCE: PCT Int. Appl., 81 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

WO 9816186	A2	19980423	WO 1997-US18767	19971015	
WO 9816186	A3	19980611			
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN					
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG					
AU 9749867	A1	19980511	AU 1997-49867	19971015	
AU 738170	B2	20010913			
BR 9712527	A	20000308	BR 1997-12527	19971015	
SI 20076	C	20000430	SI 1997-20065	19971015	
EP 1027359	A2	20000816	EP 1997-912762	19971015	
EP 1027359	B1	20030423			
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI					
CN 1268140	A	20000927	CN 1997-180619	19971015	
NZ 334915	A	20001124	NZ 1997-334915	19971015	
EP 1132393	A1	20010912	EP 2001-108303	19971015	
EP 1132393	B1	20030409			
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI					
JP 2002503212	T2	20020129	JP 1998-518612	19971015	
RU 2188828	C2	20020910	RU 1999-109459	19971015	
EP 1254911	A1	20021106	EP 2002-7191	19971015	
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI					
AT 236921	E	20030415	AT 2001-108303	19971015	
EP 1302474	A1	20030416	EP 2002-21991	19971015	
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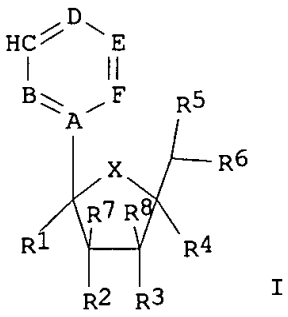
AT 238328	E	20030515	AT 1997-912762	19971015	
JP 2003176296	A2	20030624	JP 2002-318773	19971015	
MX 9903434	A	20000731	MX 1999-3434	19990413	
US 6130326	A	20001010	US 1999-291903	19990414	
NO 9901785	A	19990615	NO 1999-1785	19990415	
KR 2000049224	A	20000725	KR 1999-703326	19990416	
HR 990147	A1	20010228	HR 1999-990147	19990514	
HR 990147	B1	20020630			
HR 990148	A1	20010228	HR 1999-990148	19990514	
HR 2000000420	A1	20001231	HR 2000-420	20000623	
HR 20000420	B1	20020630			
HR 2000000422	A1	20001231	HR 2000-422	20000623	
HR 20000422	B1	20020630			
HR 2000000423	A1	20001231	HR 2000-423	20000623	
HR 20000423	B1	20020630			
US 6552183	B1	20030422	US 2000-633493	20000807	
US 2002095033	A1	20020718	US 2001-969355	20011231	
US 6573248	B2	20030603			
US 2003018186	A1	20030123	US 2002-120101	20020409	

PRIORITY APPLN. INFO.:

US 1996-28585P	P	19961016
EP 1997-912762	A3	19971015
JP 1998-518612	A3	19971015
WO 1997-US18767	W	19971015
US 1999-291903	A3	19990414

US 2000-633493 A3 20000807
US 2001-969355 A3 20011231
OTHER SOURCE(S): MARPAT 128:295005

GI



I

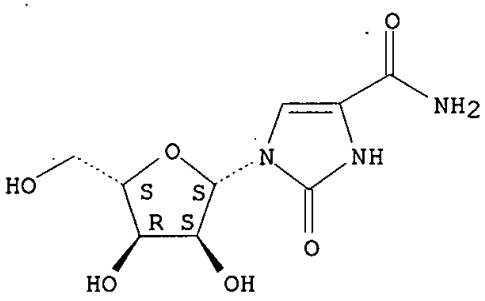
AB Monocyclic L-nucleosides I (A = N, C; B, C, E, F = independently H, alkyl, alkylamine, Acetyl, alkenyl, aryl; D = CH, CO, N, S, Se, O, amine, CCONH2, CMe, P; X = O, S, CH2, imino; R1, R4 = H, CN, N3, CH2OH, alkyl, alkylamine; R2, R3, R4, R5-R8 = H, OH, CN, N3, halo, CH2OH, NH2, OMe, NHMe, ONHMe, SMe, SPh, alkenyl, alkyl, alkylamine, heterocycle) were prepared as antiinflammatory agents and cytokine modulators. Embodiments of these compds. are contemplated to be useful in treating a wide variety of diseases including infections, infestations, neoplasms, and autoimmune diseases. Viewed in terms of mechanism, embodiments of the novel compds. show immuno-modulatory activity, and are expected to be useful in modulating the cytokine pattern, including modulation of Th1 and Th2 response. Thus, activation-induced changes in IL-2, IL-4, TNFα, IL-8, INF-γ, by L-ribavirin are reported.

IT **206269-60-5P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation of monocyclic L-nucleosides analogs as antiinflammatory agents and cytokine modulators)

RN 206269-60-5 CAPLUS

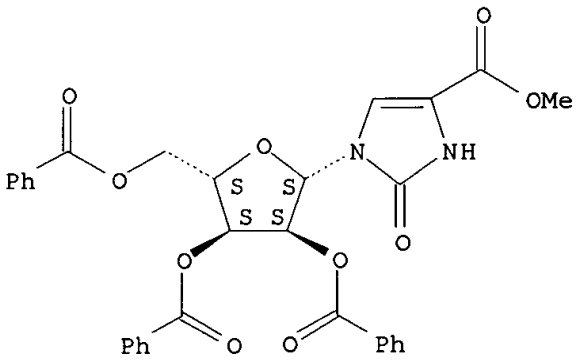
CN 1H-Imidazole-4-carboxamide, 2,3-dihydro-2-oxo-1-β-L-ribofuranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **206269-59-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of monocyclic L-nucleosides analogs as antiinflammatory agents and cytokine modulators)
RN 206269-59-2 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 2,3-dihydro-2-oxo-1-(2,3,5-tri-O-benzoyl-β-L-ribofuranosyl)-, methyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L3 ANSWER 8 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1995:582482 CAPLUS
DOCUMENT NUMBER: 122:315045
TITLE: Preparation of antiviral imidazolinone nucleoside derivatives.
INVENTOR(S): Kalman, Thomas I.
PATENT ASSIGNEE(S): USA
SOURCE: PCT Int. Appl., 110 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9421658	A1	19940929	WO 1993-US2472	19930315

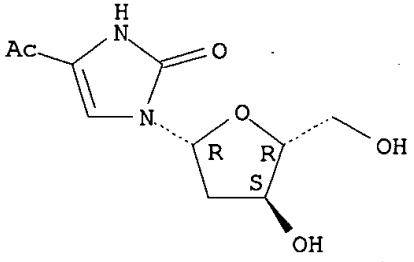
W: CA, JP
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE
PRIORITY APPLN. INFO.: WO 1993-US2472 19930315
OTHER SOURCE(S): CASREACT 122:315045; MARPAT 122:315045
AB Nucleoside or nucleotide analogs having a 4-acetylimidazolin-2-one base were prepared Thus, 5-bromo-2'-deoxyuridine was refluxed 20 h in aqueous NaHCO3, the reaction mixture was passed through a column of Dowex 50W X8, and the resulting solution of free acid was concentrated, dissolved in MeOH, and
treated with CH2N2 to give Me 1-(2-deoxy-β-D-ribofuranosyl)imidazolin-2-one-4-carboxylate. This was stirred with imidazole/tert-butyldimethylsilyl chloride in DMF to give Me 1-(2-deoxy-3,5-di-O-tert-butyldimethylsilyl-β-D-ribofuranosyl)imidazolin-2-one-4-carboxylate,

which was stirred with 1N NaOH in refluxing dioxane to give in DMF to give 1-(2-deoxy-3,5-di-O-tert-butyldimethylsilyl-β-D-ribofuranosyl)imidazolin-2-one-4-carboxylic acid. This was stirred with Ac2O in pyridine to give a residue which was treated with MeLi in Et2O/PhMe to give 1-(2-deoxy-3,5-di-O-tert-butyldimethylsilyl-β-D-ribofuranosyl)-4-acetylimidazolin-2-one. The latter was stirred with Dowex 50W X8 in MeOH/H2O to give 1-(2-deoxy-β-D-ribofuranosyl)-4-acetylimidazolin-2-one. (dImd). DImd inhibited HIV-1 with EC50 = 8.1 μM in MT-4 cells.

IT **156357-05-0P 163484-35-3P 163484-38-6P 163484-39-7P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of antiviral imidazolinone nucleoside derivs.)

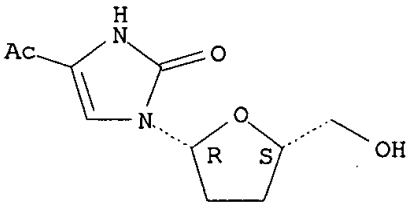
RN 156357-05-0 CAPLUS
CN 2H-Imidazol-2-one, 4-acetyl-1-(2-deoxy-β-D-erythro-pentofuranosyl)-1,3-dihydro- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



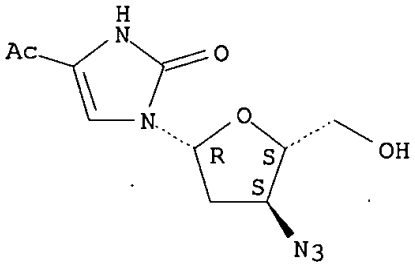
RN 163484-35-3 CAPLUS
CN 2H-Imidazol-2-one, 4-acetyl-1,3-dihydro-1-[tetrahydro-5-(hydroxymethyl)-2-furanyl]-, (2R-cis)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



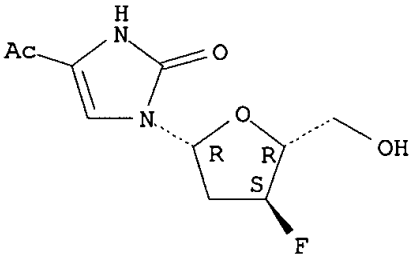
RN 163484-38-6 CAPLUS
CN 2H-Imidazol-2-one, 4-acetyl-1-(3-azido-2,3-dideoxy-β-D-erythro-pentofuranosyl)-1,3-dihydro- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



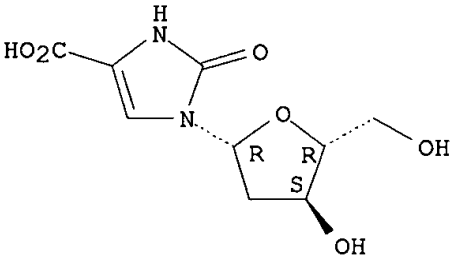
RN 163484-39-7 CAPLUS
CN 2H-Imidazol-2-one, 4-acetyl-1-(2,3-dideoxy-3-fluoro-β-D-erythro-pentofuranosyl)-1,3-dihydro- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



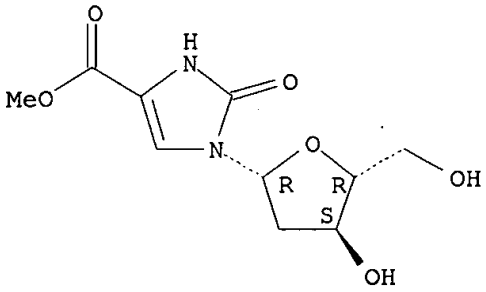
IT **20406-83-1P 163484-40-0P 163484-41-1P 163484-42-2P 163484-43-3P 163484-44-4P 163484-45-5P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of antiviral imidazolinone nucleoside derivs.)
RN 20406-83-1 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 1-(2-deoxy-β-D-erythro-pentofuranosyl)-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



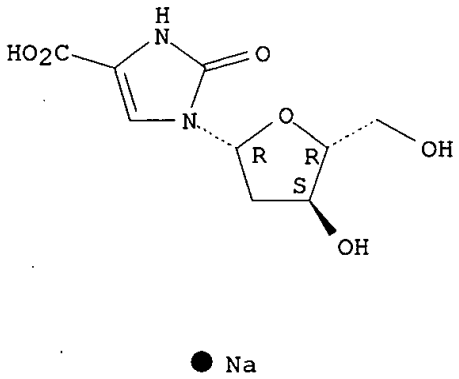
RN 163484-40-0 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 1-(2-deoxy-β-D-erythro-pentofuranosyl)-2,3-dihydro-2-oxo-, methyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 163484-41-1 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 1-(2-deoxy-β-D-erythro-pentofuranosyl)-2,3-dihydro-2-oxo-, monosodium salt (9CI) (CA INDEX NAME)

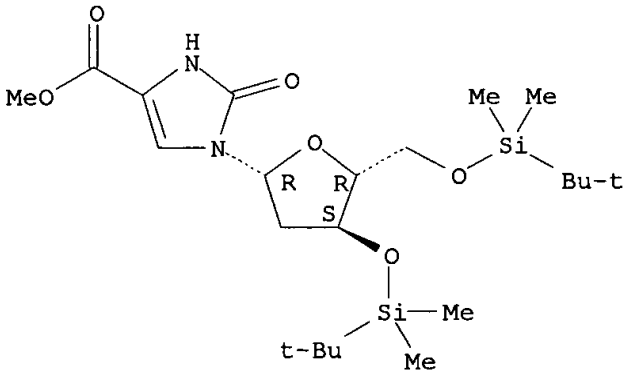
Absolute stereochemistry.



● Na

RN 163484-42-2 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 1-[2-deoxy-3,5-bis-O-[(1,1-dimethylethyl)dimethylsilyl]-β-D-erythro-pentofuranosyl]-2,3-dihydro-2-oxo-, methyl ester (9CI) (CA INDEX NAME)

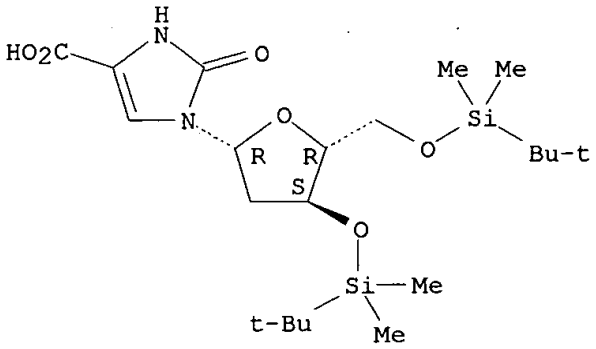
Absolute stereochemistry.



RN 163484-43-3 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 1-[2-deoxy-3,5-bis-O-[(1,1-

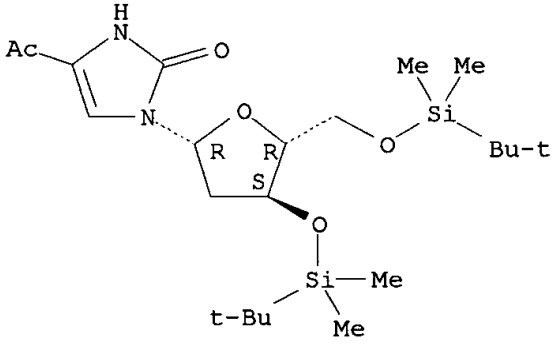
dimethylethyl)dimethylsilyl]-β-D-erythro-pentofuranosyl]-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



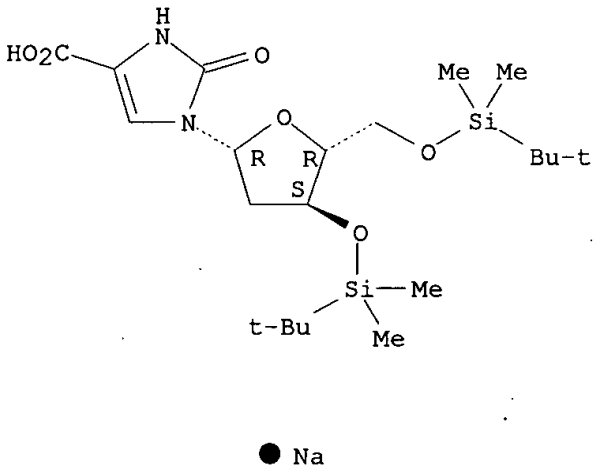
RN 163484-44-4 CAPLUS
CN 2H-Imidazol-2-one, 4-acetyl-1-[2-deoxy-3,5-bis-O-[(1,1-dimethylethyl)dimethylsilyl]-β-D-erythro-pentofuranosyl]-1,3-dihydro- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 163484-45-5 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 1-[2-deoxy-3,5-bis-O-[(1,1-dimethylethyl)dimethylsilyl]-β-D-erythro-pentofuranosyl]-2,3-dihydro-2-oxo-, monosodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.

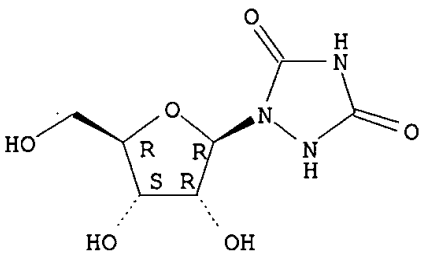


L3 ANSWER 9 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1994:598695 CAPLUS
DOCUMENT NUMBER: 121:198695
TITLE: Alternative bases in the RNA world: the prebiotic synthesis of urazole and its ribosides
AUTHOR(S): Kolb, V. M.; Dworkin, J. P.; Miller, S. L.
CORPORATE SOURCE: Dep. Chem., Univ. California, San Diego, La Jolla, CA, 92093-0317, USA
SOURCE: Journal of Molecular Evolution (1994), 38(6), 549-57
CODEN: JMEVAU; ISSN: 0022-2844
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Urazole is a 5-membered heterocyclic compound which is isosteric with uracil's H-bonding segment. Urazole reacts spontaneously with ribose (and other aldoses) to give a mixture of 4 ribosides: α and β pyranosides and furanosides. This reaction occurs in aqueous solution at mild temps. Thermodn. and kinetic parameters for the reaction of urazole with ribose were determined In contrast, uracil is completely unreactive with ribose under these conditions. Urazole's unusual reactivity is ascribed to the hydrazine portion of the mol. Urazole can be synthesized from biuret and hydrazine under prebiotic conditions. The prebiotic synthesis of guanazole, which is isosteric in part to diaminopyrimidine and cytosine, is accomplished from dicyandiamide and hydrazine. Kinetic parameters for both prebiotic reactions were measured. Urazole and guanazole are transparent in the UV range, which would be a favorable property in the absence of an ozone layer on the early Earth. Urazole forms H-bonds with adenine in DMSO similar to those of uracil, as established by 1H NMR. All of these properties make urazole an attractive potential precursor to uracil and guanazole a potential precursor to cytosine in the RNA or pre-RNA world.

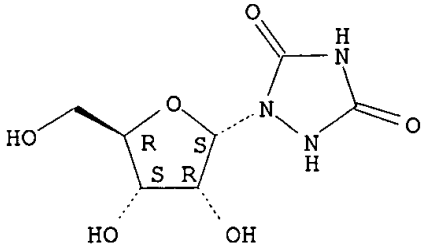
IT **24806-83-5P 157917-71-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, prebiotic evolution in relation to)
RN 24806-83-5 CAPLUS
CN 1,2,4-Triazolidine-3,5-dione, 1-β-D-ribofuranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

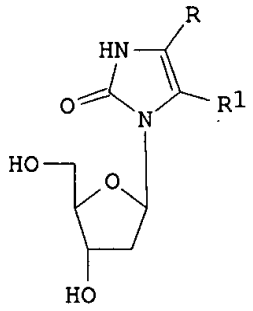


RN 157917-71-0 CAPLUS
CN 1,2,4-Triazolidine-3,5-dione, 1-α-D-ribofuranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L3 ANSWER 10 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1994:483843 CAPLUS
DOCUMENT NUMBER: 121:83843
TITLE: Synthesis of a novel antiretroviral thymidine analog: 1-(2-deoxy-β-D-ribofuranosyl)-4-acetylimidazolin-2-one (imidine)
AUTHOR(S): Jiang, Xiang-Jun; Kalman, Thomas I.
CORPORATE SOURCE: Dep. Med. Chem., State Univ. New York, Buffalo, NY, 14051, USA
SOURCE: Nucleosides & Nucleotides (1994), 13(1-3), 379-88
CODEN: NUNUD5; ISSN: 0732-8311
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



I

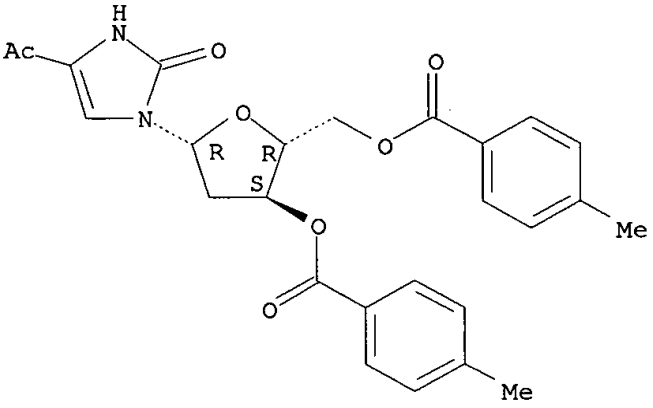
AB The total synthesis of imidine I (R = Ac, R1 = H) a novel isomer of thymidine is described. Depending on the coupling method used, either the anomeric mixture of the protected desired nucleoside, or the positional isomer I (R = H, R1 = Ac) is obtained.

IT **156357-03-8P 156357-04-9P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, in synthesis of deoxyribofuranosylimidazolinone)

RN 156357-03-8 CAPLUS

CN 2H-Imidazol-2-one, 4-acetyl-1-[2-deoxy-3,5-bis-O-(4-methylbenzoyl)-β-D-erythro-pentofuranosyl]-1,3-dihydro- (9CI) (CA INDEX NAME)

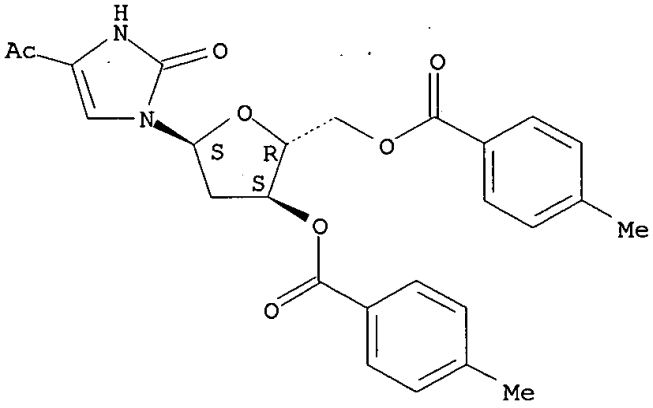
Absolute stereochemistry.



RN 156357-04-9 CAPLUS

CN 2H-Imidazol-2-one, 4-acetyl-1-[2-deoxy-3,5-bis-O-(4-methylbenzoyl)-α-D-erythro-pentofuranosyl]-1,3-dihydro- (9CI) (CA INDEX NAME)

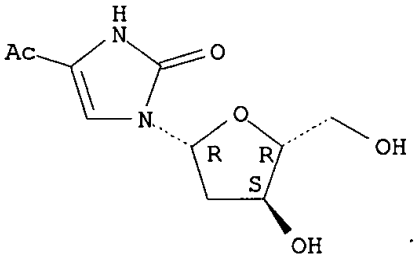
Absolute stereochemistry.



IT **156357-05-0P 156357-06-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

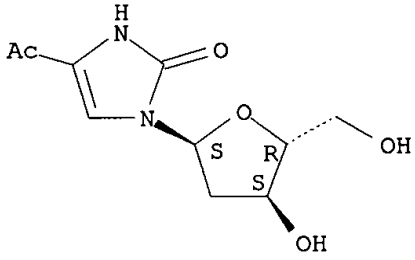
RN 156357-05-0 CAPLUS
CN 2H-Imidazol-2-one, 4-acetyl-1-(2-deoxy-β-D-erythro-pentofuranosyl)-1,3-dihydro- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

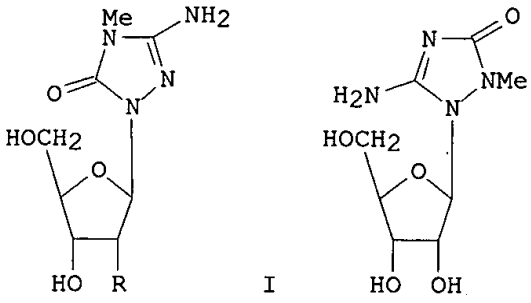


RN 156357-06-1 CAPLUS
CN 2H-Imidazol-2-one, 4-acetyl-1-(2-deoxy-α-D-erythro-pentofuranosyl)-1,3-dihydro- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L3 ANSWER 11 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1990:612547 CAPLUS
DOCUMENT NUMBER: 113:212547
TITLE: Synthesis of certain 1,2,4-triazole nucleoside derivatives
AUTHOR(S): Michael, Josephine; Larson, Steven B.; Vaghefi, Morteza M.; Robins, Roland K.
CORPORATE SOURCE: Nucleic Acid Res. Inst., ICN, Costa Mesa, CA, 92626, USA
SOURCE: Journal of Heterocyclic Chemistry (1990), 27(4), 1063-71
CODEN: JHTCAD; ISSN: 0022-152X
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 113:212547
GI



I

II

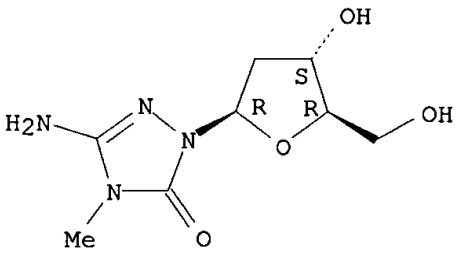
AB The synthesis of ribofuranosyltriazolinones I (R = H, OH) and II have been accomplished via glycosylation of 3-bromo-5-nitro-1,2,4-triazole and 3-amino-1-methyl-1,2,4-triazolin-5(2H)-one. The structures of I (R = H) and II were confirmed by x-ray diffraction anal.

IT **130294-27-8P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and crystal structure of)

RN 130294-27-8 CAPLUS

CN 3H-1,2,4-Triazol-3-one, 5-amino-2-(2-deoxy-β-D-erythro-pentofuranosyl)-2,4-dihydro-4-methyl-, hydrate (5:1) (9CI) (CA INDEX NAME)

Absolute stereochemistry.



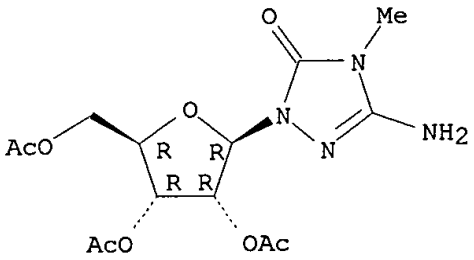
●1/5 H_2O

IT **130187-29-0P 130187-30-3P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and deacetylation of)

RN 130187-29-0 CAPLUS

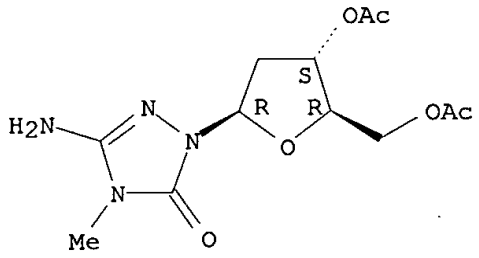
CN 3H-1,2,4-Triazol-3-one, 5-amino-2,4-dihydro-4-methyl-2-(2,3,5-tri-O-acetyl-β-D-ribofuranosyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



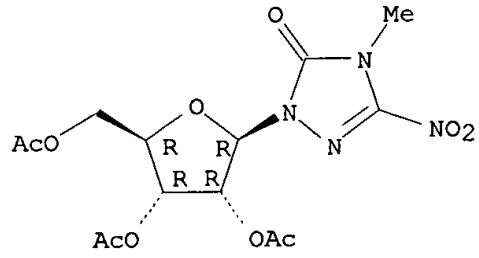
RN 130187-30-3 CAPLUS
CN 3H-1,2,4-Triazol-3-one, 5-amino-2-(3,5-di-O-acetyl-2-deoxy-β-D-erythro-pentofuranosyl)-2,4-dihydro-4-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



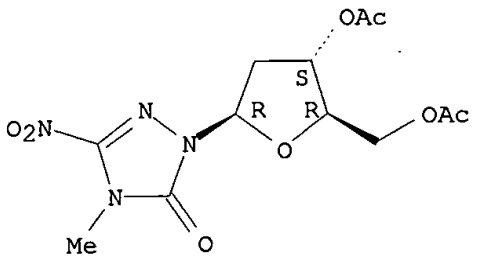
IT **130187-27-8P 130187-28-9P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and hydrogenation of)
RN 130187-27-8 CAPLUS
CN 3H-1,2,4-Triazol-3-one, 2,4-dihydro-4-methyl-5-nitro-2-(2,3,5-tri-O-acetyl-β-D-ribofuranosyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



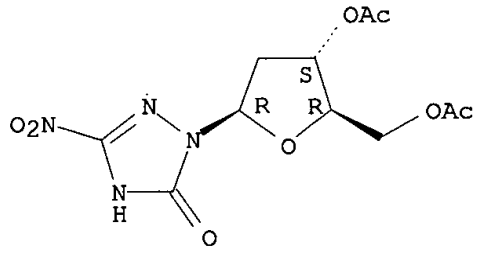
RN 130187-28-9 CAPLUS
CN 3H-1,2,4-Triazol-3-one, 2-(3,5-di-O-acetyl-2-deoxy-β-D-erythro-pentofuranosyl)-2,4-dihydro-4-methyl-5-nitro- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



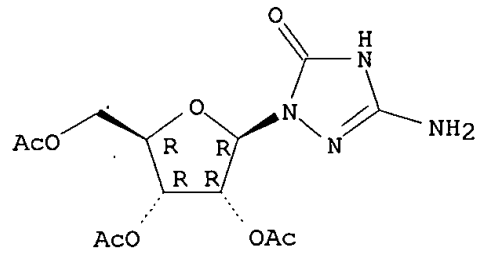
IT **130187-25-6P 130187-26-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and methylation of)
RN 130187-25-6 CAPLUS
CN 3H-1,2,4-Triazol-3-one, 2-(3,5-di-O-acetyl-2-deoxy-β-D-erythro-pentofuranosyl)-1,2-dihydro-5-nitro- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



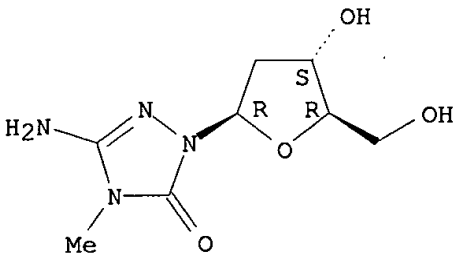
RN 130187-26-7 CAPLUS
CN 3H-1,2,4-Triazol-3-one, 5-amino-1,2-dihydro-2-(2,3,5-tri-O-acetyl-β-D-ribofuranosyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



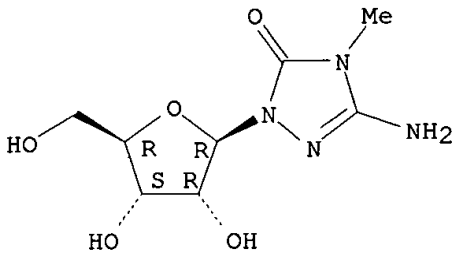
IT **130187-43-8P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and mol. structure of)
RN 130187-43-8 CAPLUS
CN 3H-1,2,4-Triazol-3-one, 5-amino-2-(2-deoxy-β-D-erythro-pentofuranosyl)-2,4-dihydro-4-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



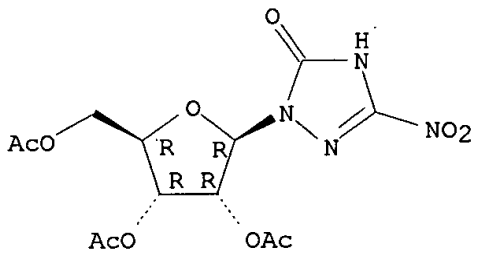
IT **130187-31-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 130187-31-4 CAPLUS
CN 3H-1,2,4-Triazol-3-one, 5-amino-2,4-dihydro-4-methyl-2-β-D-ribofuranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



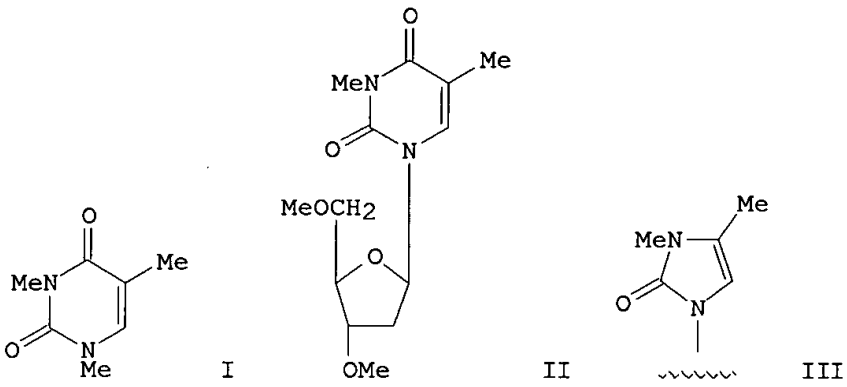
IT **130216-17-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation, reduction, or methylation of)
RN 130216-17-0 CAPLUS
CN 3H-1,2,4-Triazol-3-one, 2,4-dihydro-5-nitro-2-(2,3,5-tri-O-acetyl-β-D-ribofuranosyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L3 ANSWER 12 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1989:95705 CAPLUS
DOCUMENT NUMBER: 110:95705
TITLE: Oxidation of thymine derivatives with superoxide ion

AUTHOR(S): Harayame, Takashi; Mori, Kenya; Yanada, Reiko; Iio, Kumiko; Fujita, Yuki; Yoneda, Fumio
CORPORATE SOURCE: Fac. Pharm. Sci., Kyoto Univ., Kyoto, 606, Japan
SOURCE: Journal of the Chemical Society, Chemical Communications (1988), (17), 1171-2
CODEN: JCCCAT; ISSN: 0022-4936
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 110:95705
GI



I II III

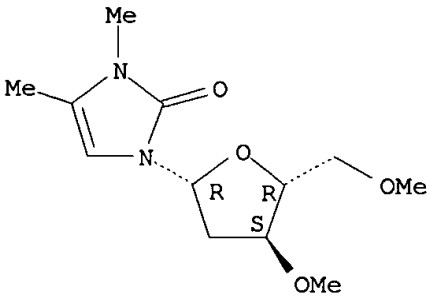
AB Alkylated thymine and thymidine derivs. I and II resp. are transformed by KO2 into the imidazolone derivs. III. A plausible mechanism is presented.

IT **118941-62-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 118941-62-1 CAPLUS

CN 2H-Imidazol-2-one, 1-(2-deoxy-3,5-di-O-methyl-β-D-erythro-pentofuranosyl)-1,3-dihydro-3,4-dimethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L3 ANSWER 13 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1988:464744 CAPLUS
DOCUMENT NUMBER: 109:64744
TITLE: Structure of an imidazoline ribonucleoside
AUTHOR(S): Larson, Steven B.; Cottam, Howard B.; Robins, Roland

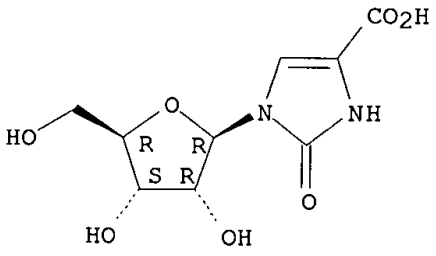
K.
CORPORATE SOURCE: Nucleic Acid Res. Inst., Costa Mesa, CA, 92626, USA
SOURCE: Acta Crystallographica, Section C: Crystal Structure Communications (1988), C44(5), 942-4
CODEN: ACSCEE; ISSN: 0108-2701
DOCUMENT TYPE: Journal
LANGUAGE: English

AB 1-(β-D-Ribofuranosyl)-2-oxo-4-imidazoline-4-carboxylic acid dihydrate is monoclinic, space group P21, with a 9.3754(10), b 5.0542(4), c 13.3075(10) Å, and β 103.155(9)°; dc = 1.602 for Z = 2. The final R = 0.0311 for 2458 reflections. Atomic coordinates are given. The sugar bond lengths and bond angles are normal. The sugar ring is C3, endo with angle of pseudorotation 26.9°. The conformation around C4'-C5' is gt. The glycosidic torsion angle O4'-C1'-N1-C2 is -122.68°. Nine H bonds, ranging from 1.64 to 2.20 Å, exist in the crystal structure. The imidazoline ring is planar. The carboxylic acid function is twisted 1.14° out of the plane of the imidazoline ring.

IT **115416-27-8**
RL: PRP (Properties)
(crystal structure of)

RN 115416-27-8 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 2,3-dihydro-2-oxo-1-β-D-ribofuranosyl-, dihydrate (9CI) (CA INDEX NAME)

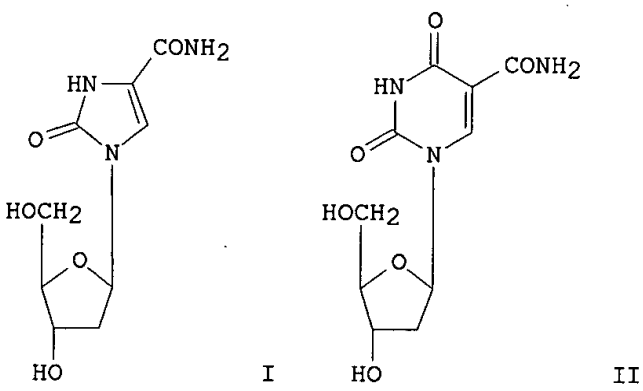
Absolute stereochemistry.



●2 H_2O

L3 ANSWER 14 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1987:637206 CAPLUS
DOCUMENT NUMBER: 107:237206
TITLE: An alternative to the mixed probe method in DNA hybridization: synthetic lure nucleotide for the ambiguous position of codons
AUTHOR(S): Fukuda, Tsunehiko; Hamana, Takumi; Kikuchi, Kaeko; Marumoto, Ryuji
CORPORATE SOURCE: Cent. Res. Div., Takeda Chem. Ind. Ltd., Osaka, 532, Japan
SOURCE: Zeitschrift fuer Naturforschung, Teil B: Anorganische Chemie, Organische Chemie (1986), 41B(12), 1571-9
CODEN: ZNBAD2; ISSN: 0340-5087
DOCUMENT TYPE: Journal

LANGUAGE: English
OTHER SOURCE(S): CASREACT 107:237206
GI

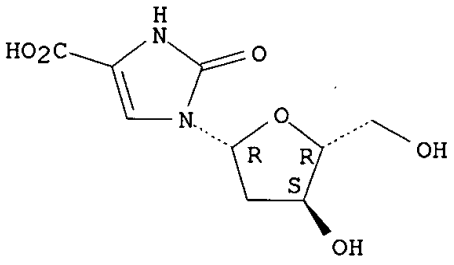


I II

AB Two deoxynucleoside analogs I and II were prepared and incorporated into decamer deoxynucleotides, which were hybridized to their complementary strands. The duplices in which I paired with A or G showed higher melting temps. (Tm's) than those containing G-T or A-C mismatch, although lower than the Tm of intact totally complementary duplex. The incorporation of II into a strand resulted in extreme destabilization of the duplex.

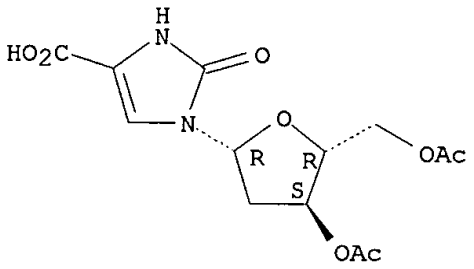
IT **20406-83-1**
RL: RCT (Reactant); RACT (Reactant or reagent)
(acetylation of)
RN 20406-83-1 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 1-(2-deoxy-β-D-erythro-pentofuranosyl)-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



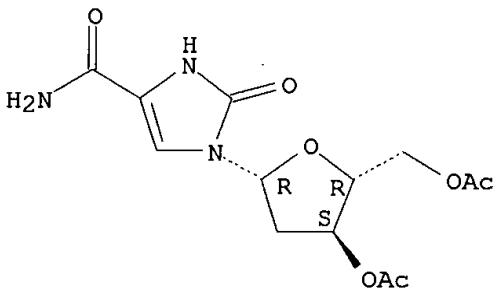
IT **105386-23-0P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and amidation of)
RN 105386-23-0 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 1-(3,5-di-O-acetyl-2-deoxy-β-D-erythro-pentofuranosyl)-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



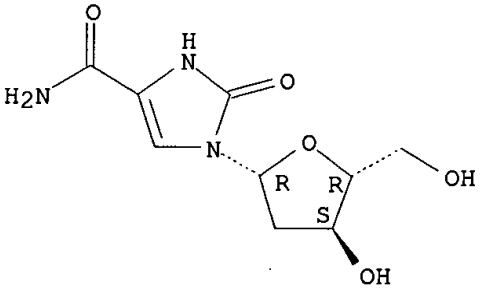
IT **110945-35-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and deacetylation of)
RN 110945-35-2 CAPLUS
CN 1H-Imidazole-4-carboxamide, 1-(3,5-di-O-acetyl-2-deoxy-β-D-erythro-pentofuranosyl)-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **105386-22-9P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and dimethoxytritylation of)
RN 105386-22-9 CAPLUS
CN 1H-Imidazole-4-carboxamide, 1-(2-deoxy-β-D-erythro-pentofuranosyl)-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

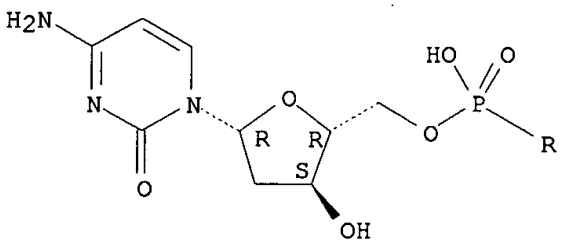


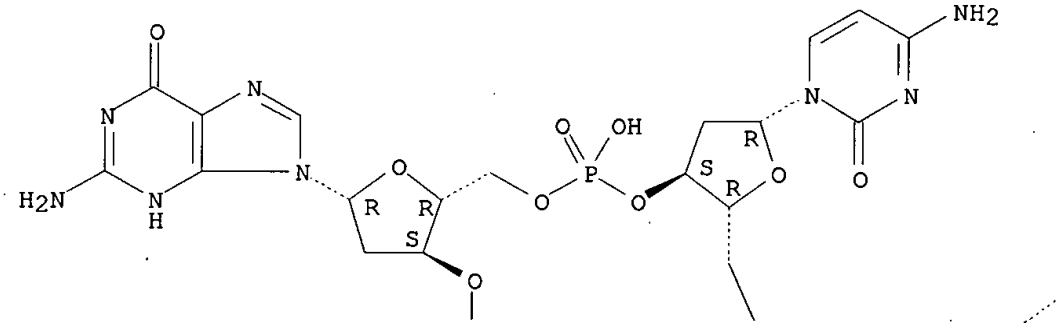
IT **110914-13-1P 110914-15-3P 110914-18-6P**
110914-19-7P 110945-39-6P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and melting temperature of duplex containing)
RN 110914-13-1 CAPLUS
CN Cytidine, 2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-1'-[4-(aminocarbonyl)-2,3-dihydro-2-oxo-1H-imidazol-1-yl]-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A





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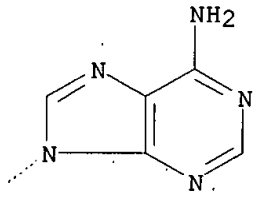
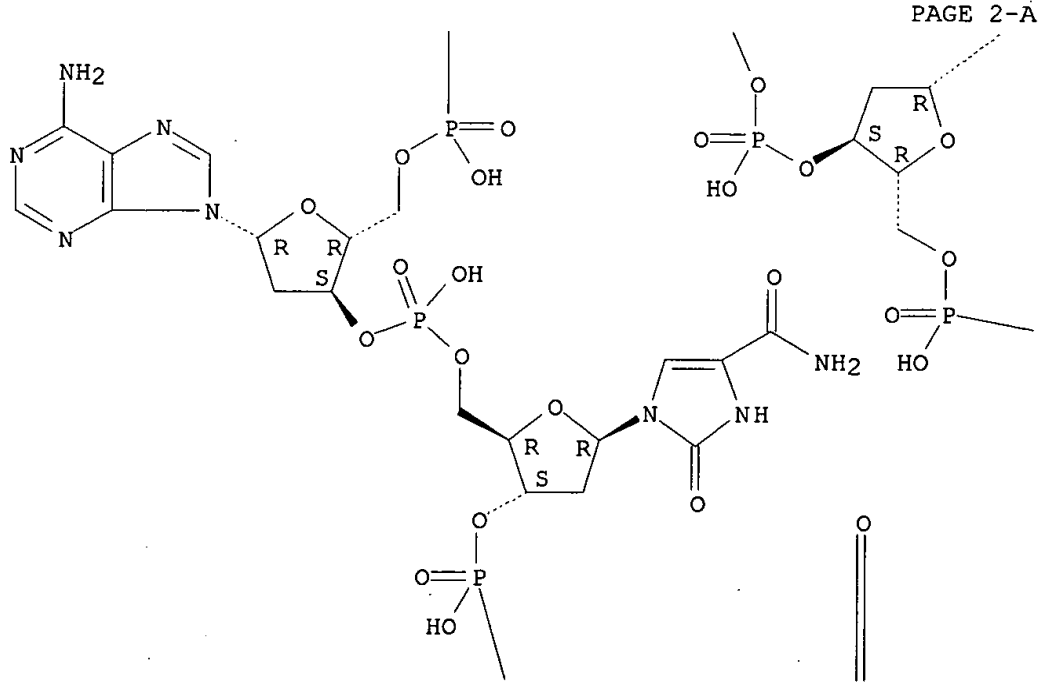


PAGE 2-A



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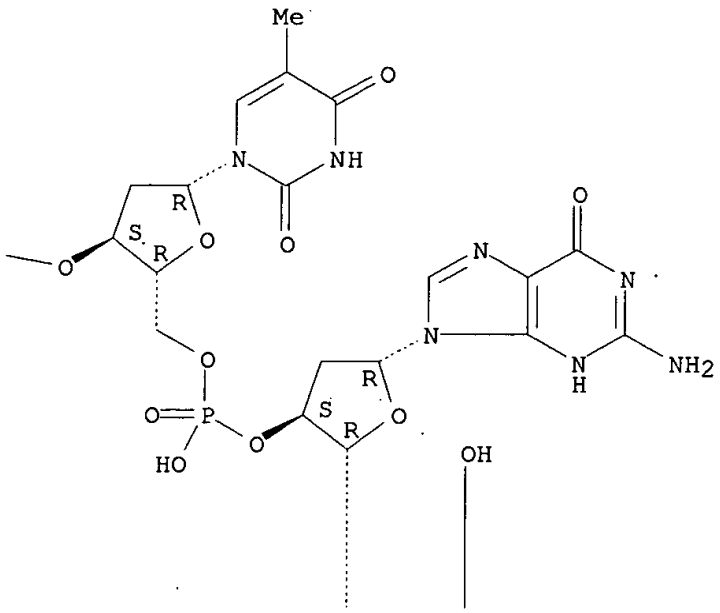

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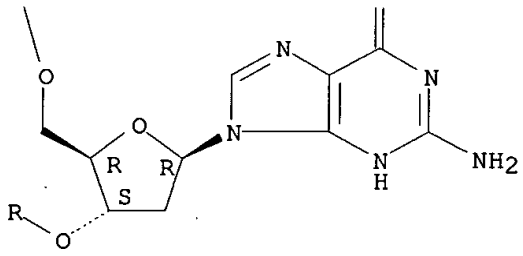

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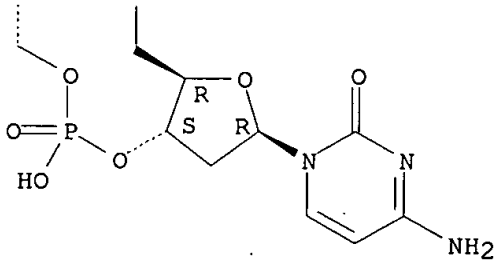
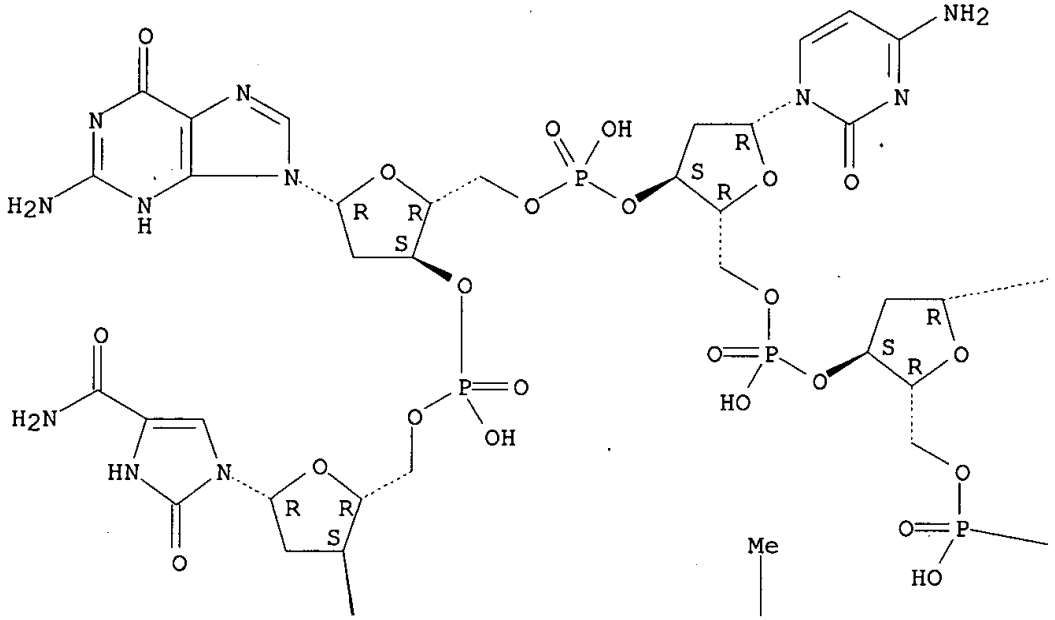


RN 110914-15-3 CAPLUS
CN Cytidine, 2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-

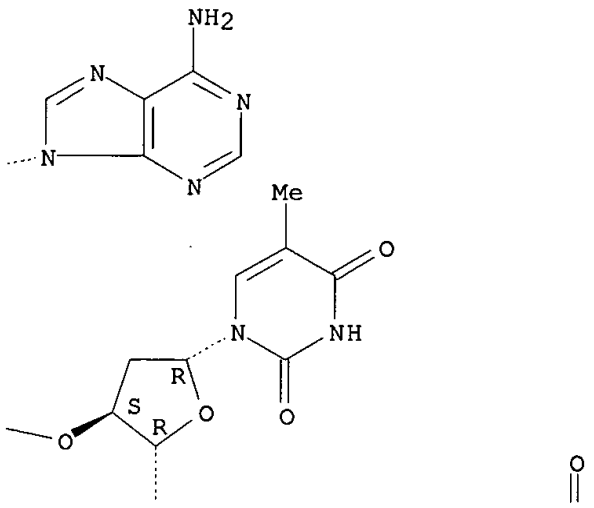
deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-1'-[4-(aminocarbonyl)-2,3-dihydro-2-oxo-1H-imidazol-1-yl]-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



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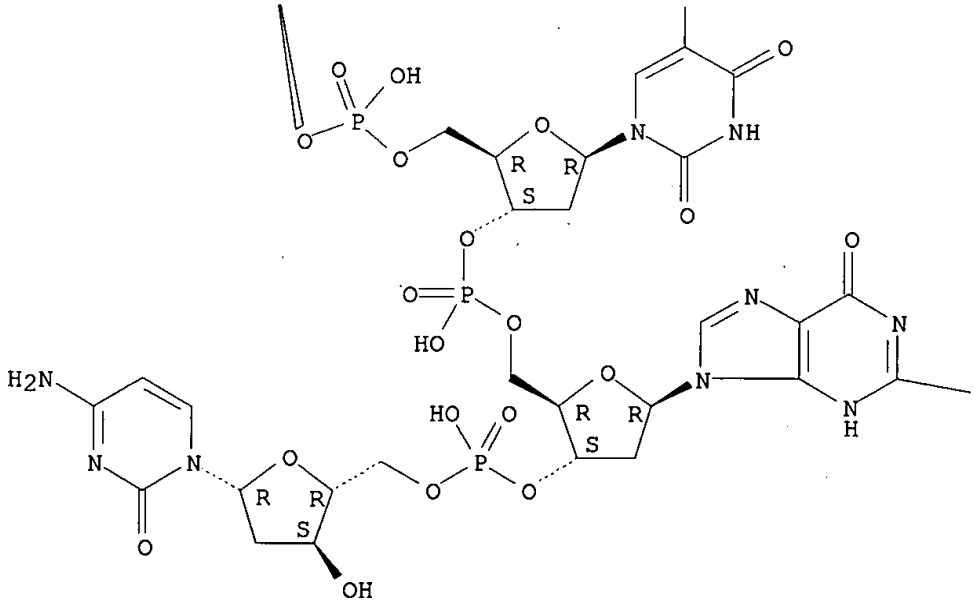

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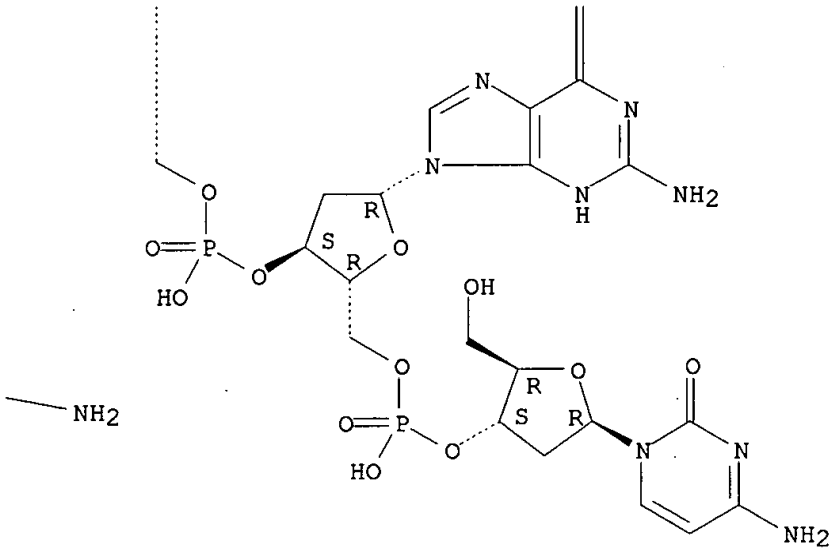

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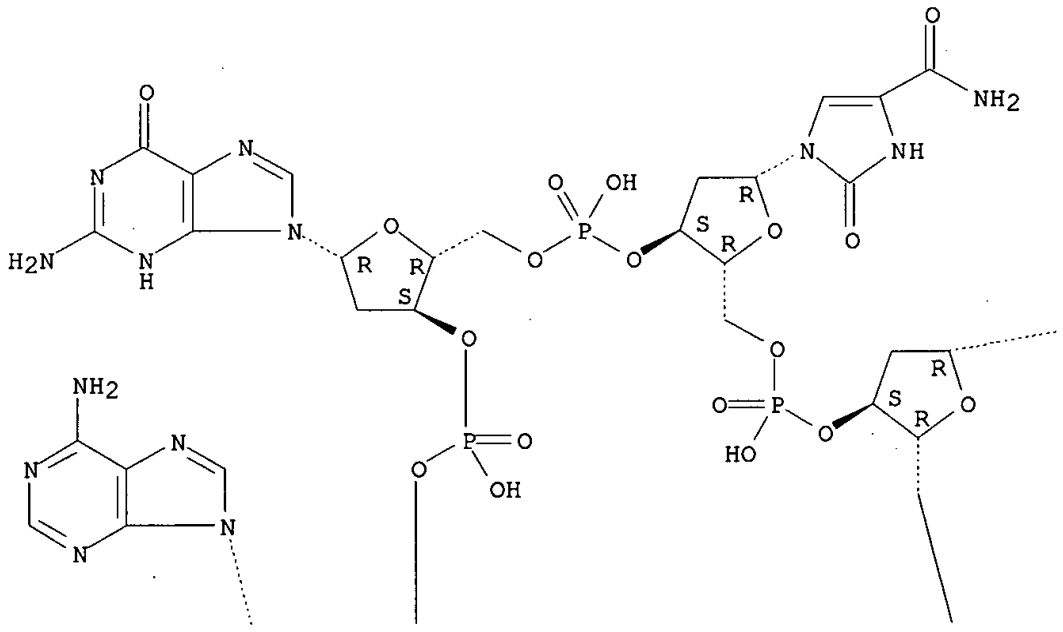
CN Cytidine, 2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-1'-[4-(aminocarbonyl)-2,3-dihydro-2-oxo-1H-imidazol-1-yl]-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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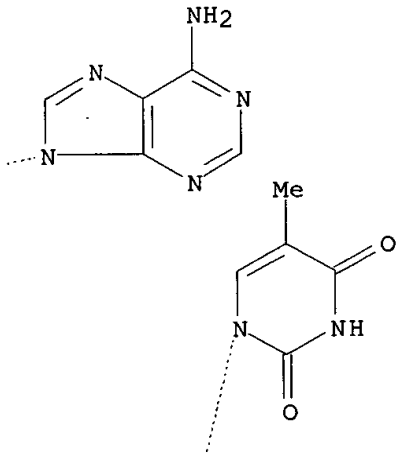

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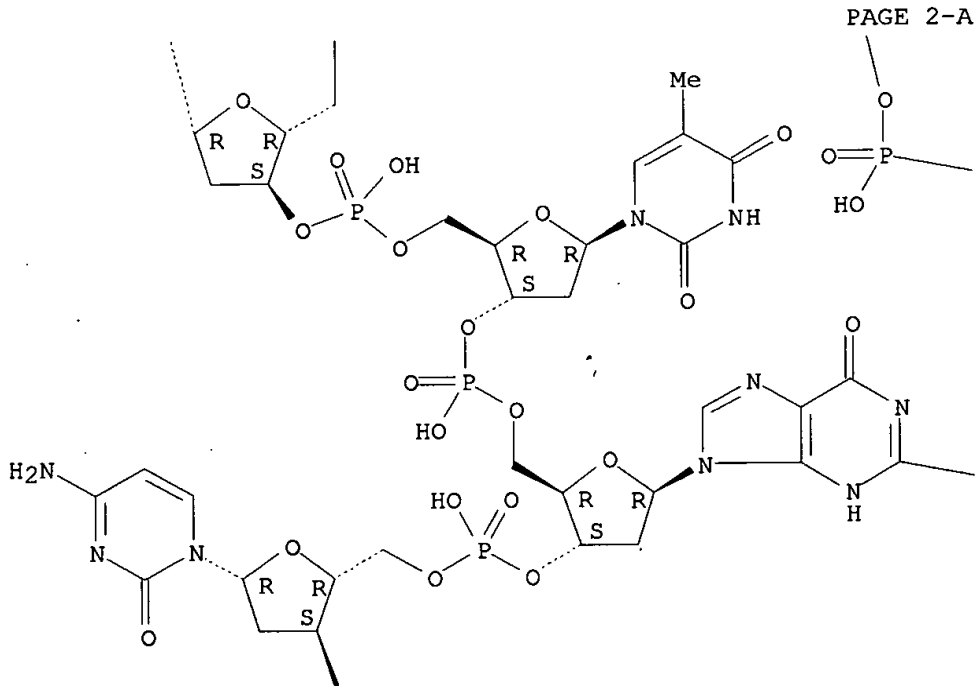

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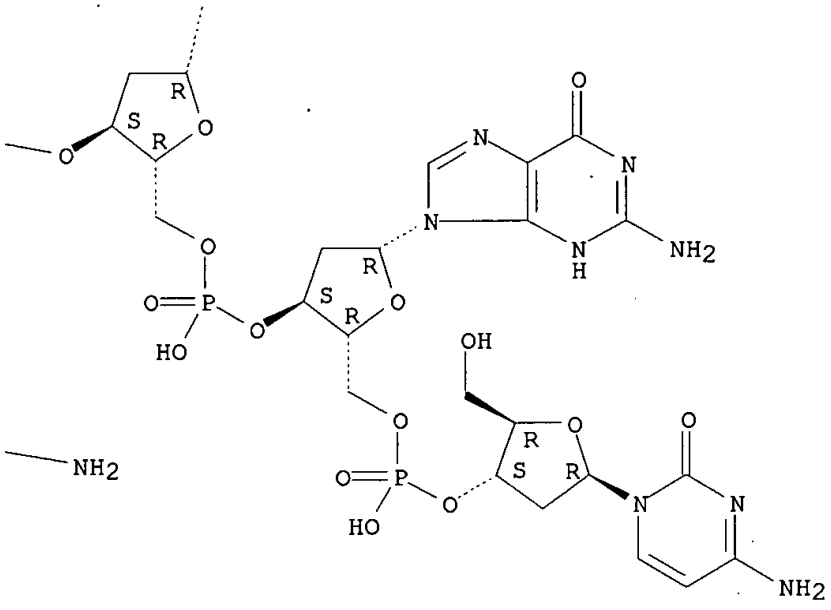

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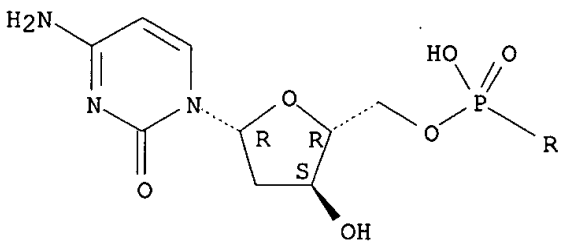
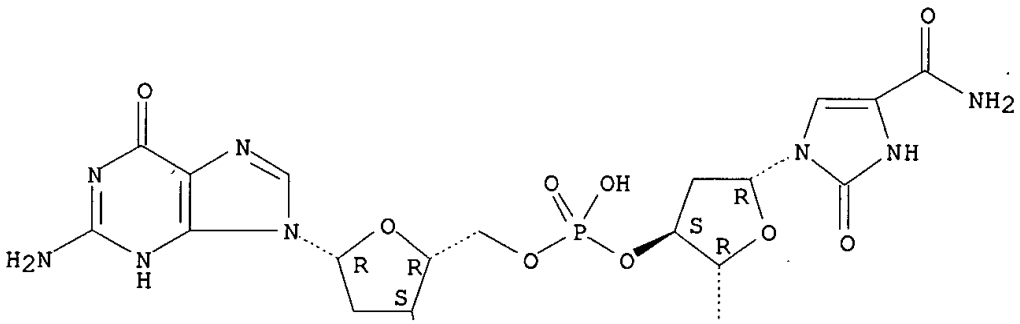
RN 110914-19-7 CAPLUS
CN Cytidine, 2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-1'-[4-(aminocarbonyl)-2,3-dihydro-2-oxo-1H-imidazol-1-yl]-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-1'-[4-(aminocarbonyl)-2,3-dihydro-2-oxo-1H-imidazol-1-yl]-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A





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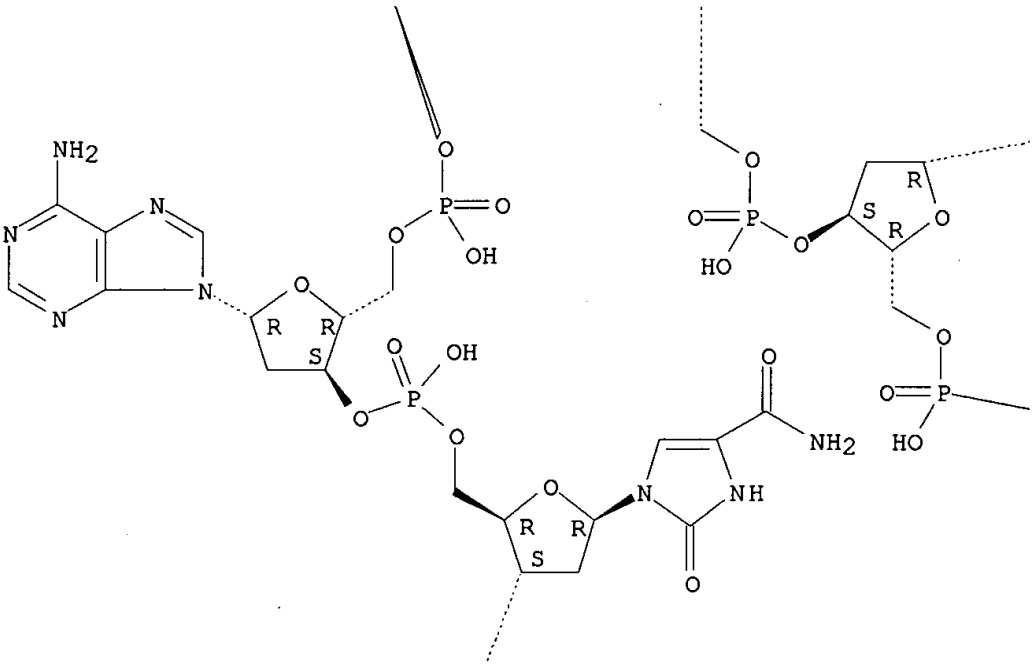

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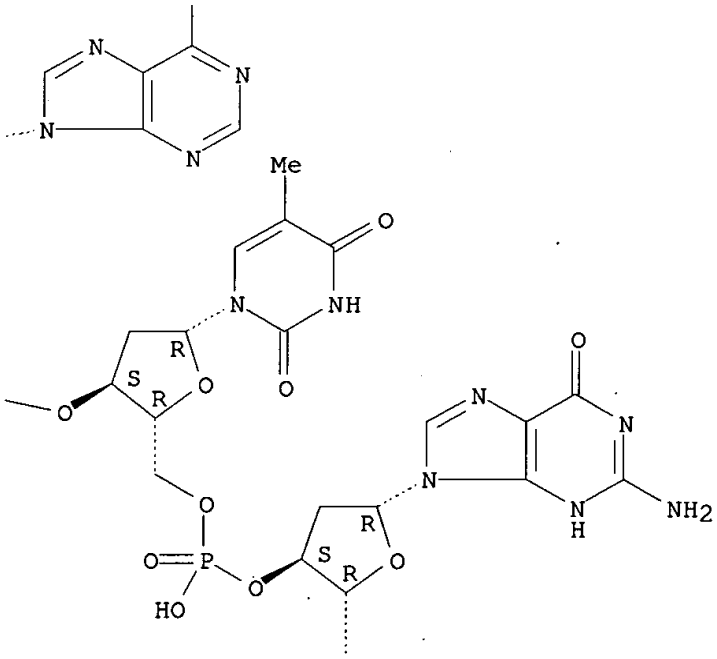

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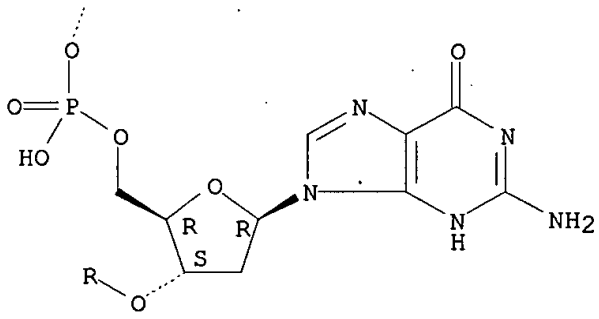

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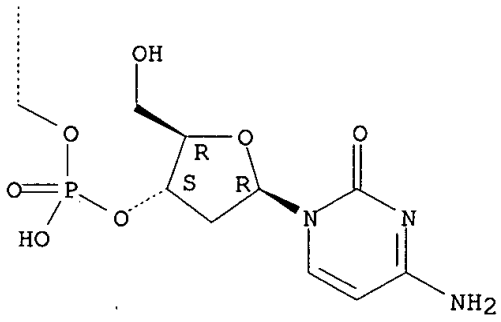
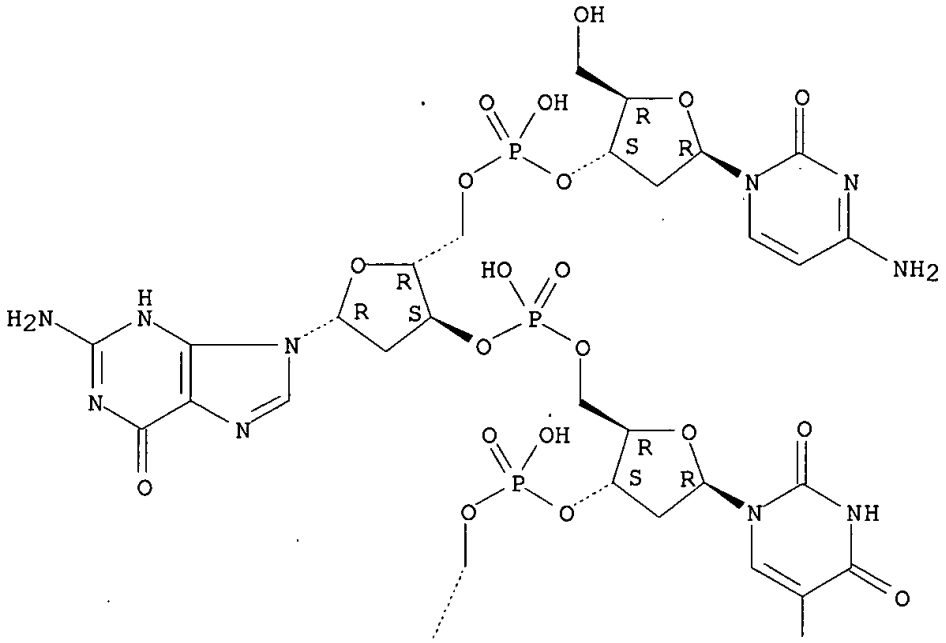


RN 110945-39-6 CAPLUS
CN Cytidine, 2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-1'-[4-(aminocarbonyl)-2,3-dihydro-2-oxo-1H-imidazol-1-yl]-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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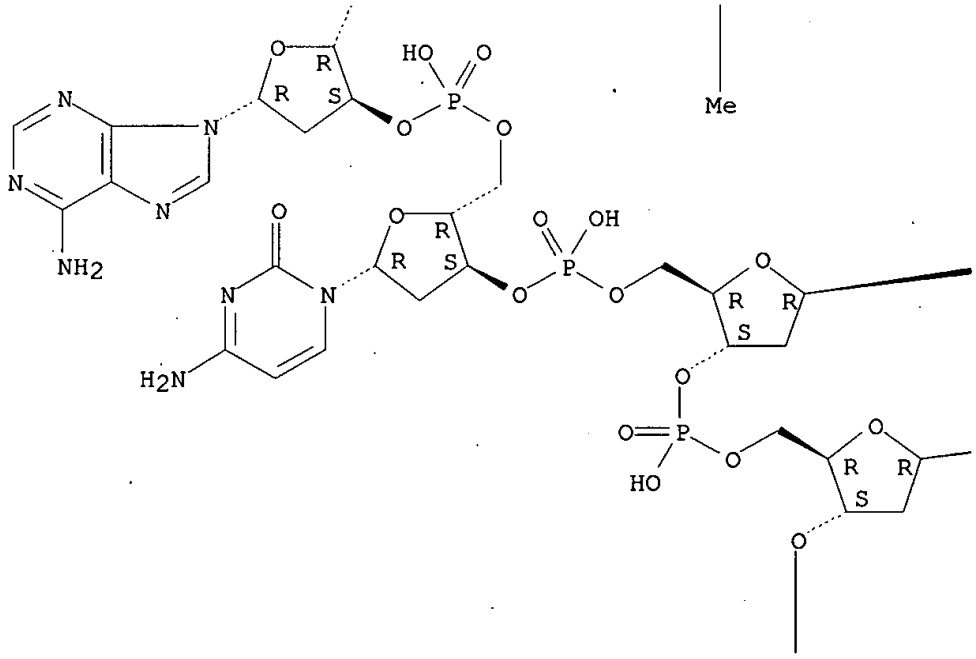

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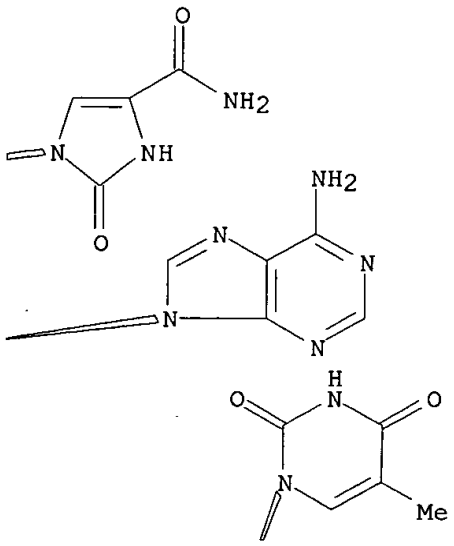

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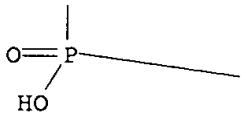

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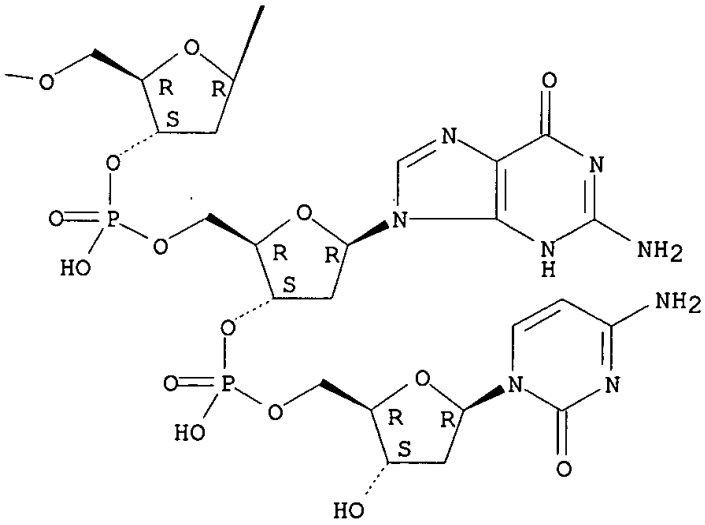
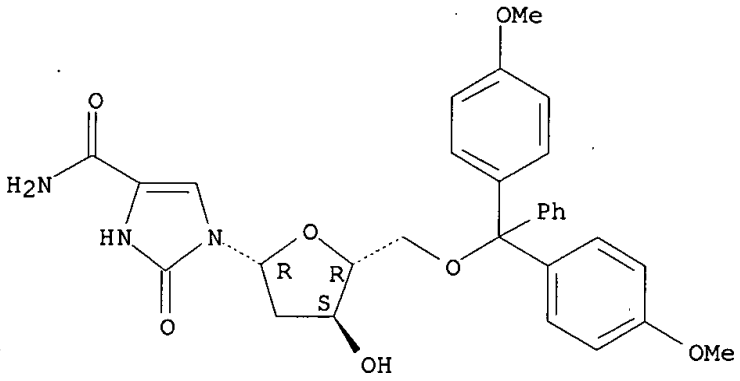


IT **105386-25-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and phosphorylation of)
RN 105386-25-2 CAPLUS
CN 1H-Imidazole-4-carboxamide, 1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-2-deoxy-β-D-erythro-pentofuranosyl]-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

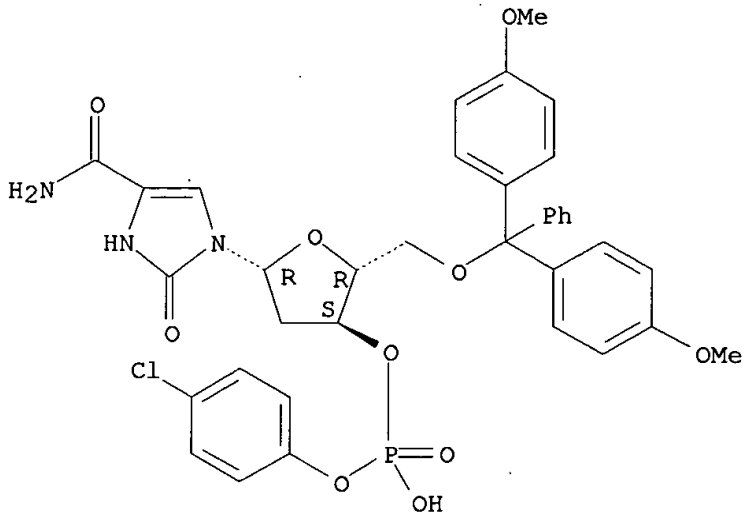


IT **110945-37-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, intermediate in synthesis of oligodeoxynucleotides)
RN 110945-37-4 CAPLUS
CN 1H-Imidazole-4-carboxamide, 1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[(4-chlorophenoxy)hydroxyphosphinyl]-2-deoxy-β-D-erythro-pentofuranosyl]-2,3-dihydro-2-oxo-, compd. with N,N-diethylethanamine (1:1) (9CI) (CA INDEX NAME)

CM 1

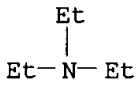
CRN 110945-36-3
CMF C36 H35 Cl N3 O10 P

Absolute stereochemistry.



CM 2

CRN 121-44-8
CMF C6 H15 N



L3 ANSWER 15 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1987:18996 CAPLUS
DOCUMENT NUMBER: 106:18996
TITLE: Carbamoylimidazolinone oligodeoxynucleotides.
INVENTOR(S): Fukuda, Tsunehiko; Hamana, Takumi; Marumoto, Ryuji
PATENT ASSIGNEE(S): Takeda Chemical Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 61171497	A2	19860802	JP 1985-10779	19850125

PRIORITY APPLN. INFO.: JP 1985-10779 19850125
OTHER SOURCE(S): CASREACT 106:18996
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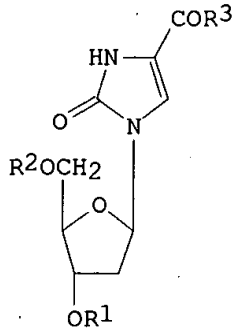


I

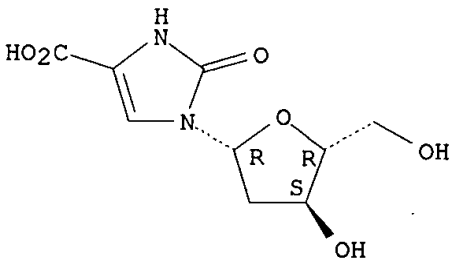
AB The title compds. [I; R1 and R2 are H, protective group, (un)protected phosphoryl, oligodeoxynucleotide residue; R3 = NH2], useful for gene isolation and detection, were prepared Thus, acetylation of I (R1 = R2 = H, R3 = OH), esterification of the resulting I (R1 = R2 = OAc, R3 = OH) with MeI in Me2CO containing Na2CO3 under reflux for 18 h, and subsequent amidation of I (R1 = R2 = OAc, R3 = OMe) obtained with concentrated NH4OH/pyridine at 60° for 20 h gave I (R1 = R2 = H, R3 = NH2)(II). Tritylation of II with QCl [Q = (p-MeOC6H4)2CPh] in pyridine followed by phosphorylation with p-ClC6H4OP(O)Cl2/1,2,4-triazole and esterification with HOCH2CH2CN/1-methylimidazole gave I [R1 = p-ClC6H4OP(O)(OCH2CH2CN), R2 = Q, R3 = NH2], which was coupled with various synthetic nucleotides by solid phase synthesis to give, after deprotection, I (R1 = 5'-oligodeoxynucleotide residue, R2 = 3'-oligodeoxynucleotide residue, R3 = NH2). These oligonucleotides were hybridized to their complementary strands. Hypochromicity studies of these duplexes showed that the carbamoylimidazolinone residue was capable of forming H bonding and base pair stacking with naturally occurring nucleoside bases and could be used as a substitute for the third base in amino acid codon in gene probe using oligonucleotides.

IT **20406-83-1**
RL: RCT (Reactant); RACT (Reactant or reagent)
(acetylation of)

RN 20406-83-1 CAPLUS

CN 1H-Imidazole-4-carboxylic acid, 1-(2-deoxy-β-D-erythro-pentofuranosyl)-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

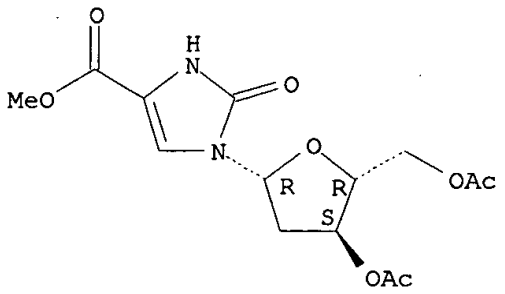
Absolute stereochemistry.



IT **105386-24-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

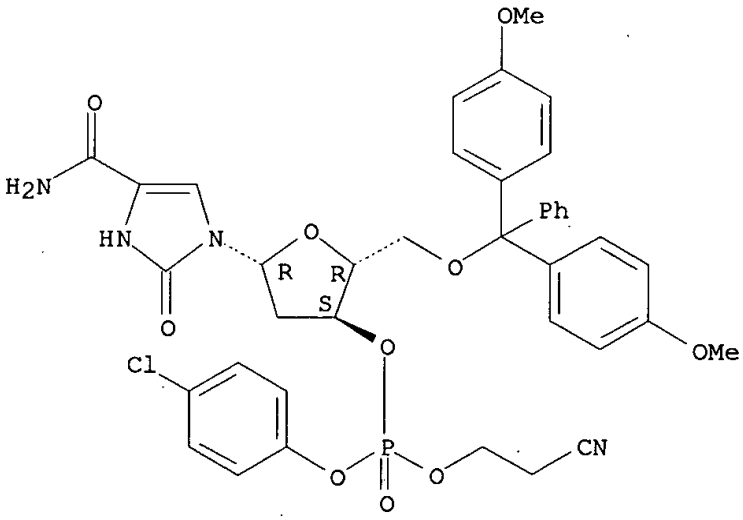
(preparation and amidation of)
RN 105386-24-1 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 1-(3,5-di-O-acetyl-2-deoxy-β-D-erythro-pentofuranosyl)-2,3-dihydro-2-oxo-, methyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



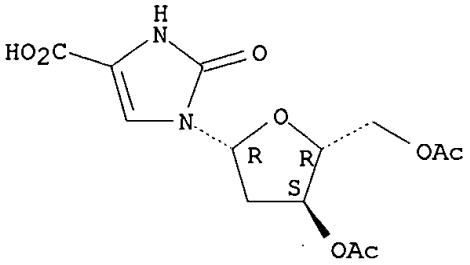
IT **105386-26-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and conversion of, to oligodeoxynucleotides)
RN 105386-26-3 CAPLUS
CN 1H-Imidazole-4-carboxamide, 1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[(4-chlorophenoxy)(2-cyanoethoxy)phosphinyl]-2-deoxy-β-D-erythro-pentofuranosyl]-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **105386-23-0P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and esterification of)
RN 105386-23-0 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 1-(3,5-di-O-acetyl-2-deoxy-β-D-erythro-pentofuranosyl)-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

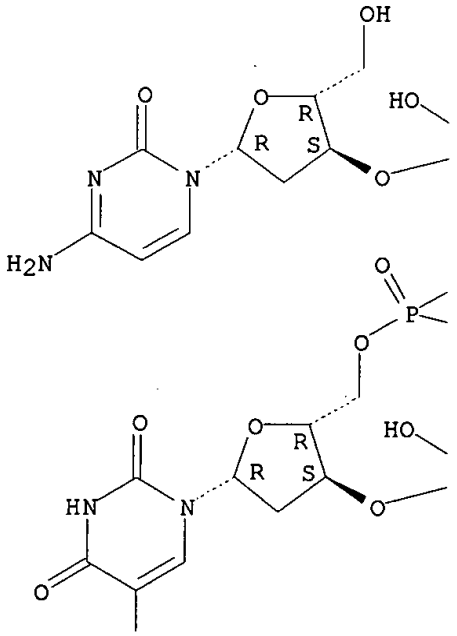
Absolute stereochemistry.



IT **105386-27-4P 105386-28-5P 105386-29-6P**
105386-30-9P 105386-36-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and hybridization of, with complementary strand of oligodeoxynucleotide)
RN 105386-27-4 CAPLUS
CN Cytidine, 2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-thymidylyl-(3'→5')-1'-[4-(aminocarbonyl)-2,3-dihydro-2-oxo-1H-imidazol-1-yl]-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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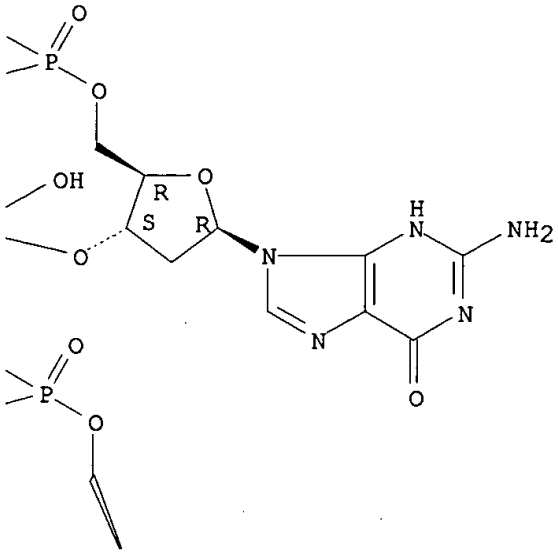

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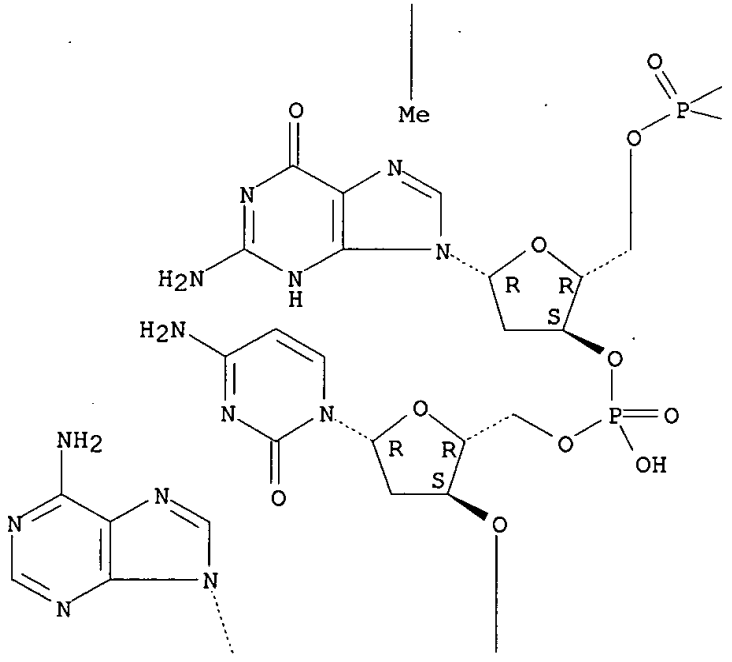

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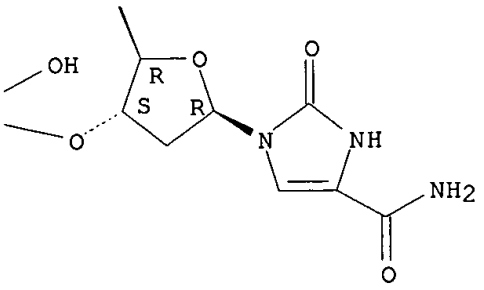

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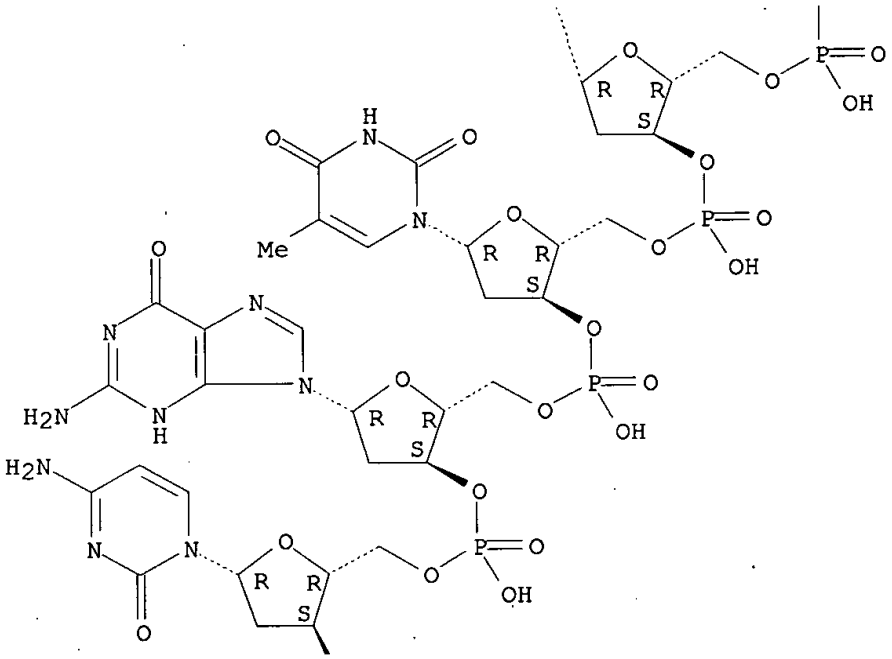

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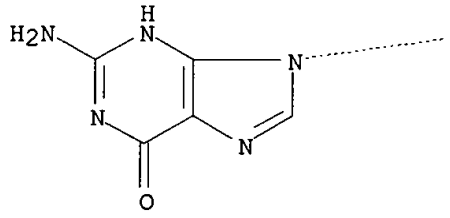
RN 105386-28-5 CAPLUS
CN Cytidine, 2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-1'-[4-(aminocarbonyl)-2,3-dihydro-2-oxo-1H-imidazol-1-yl]-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-1'-[4-(aminocarbonyl)-2,3-dihydro-2-oxo-1H-imidazol-1-yl]-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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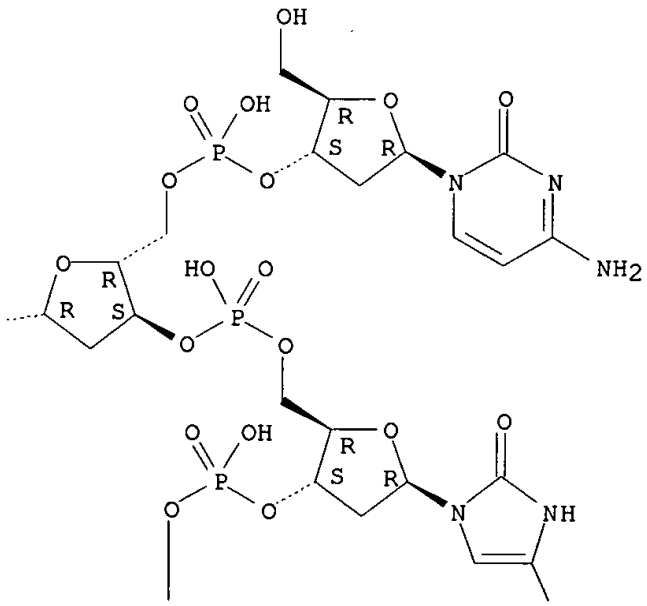

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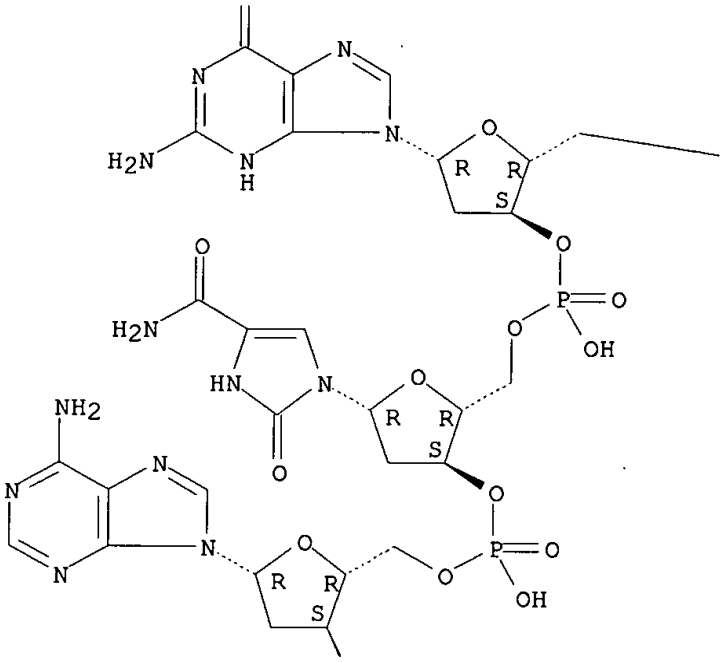

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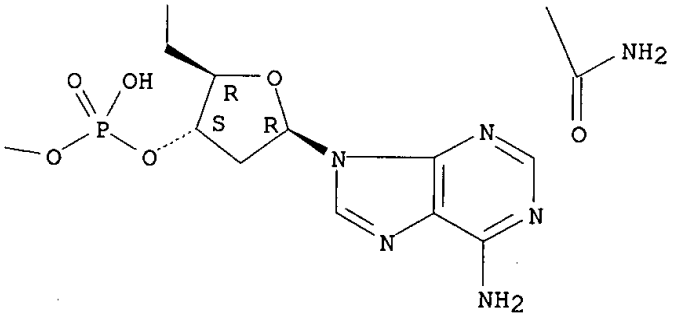

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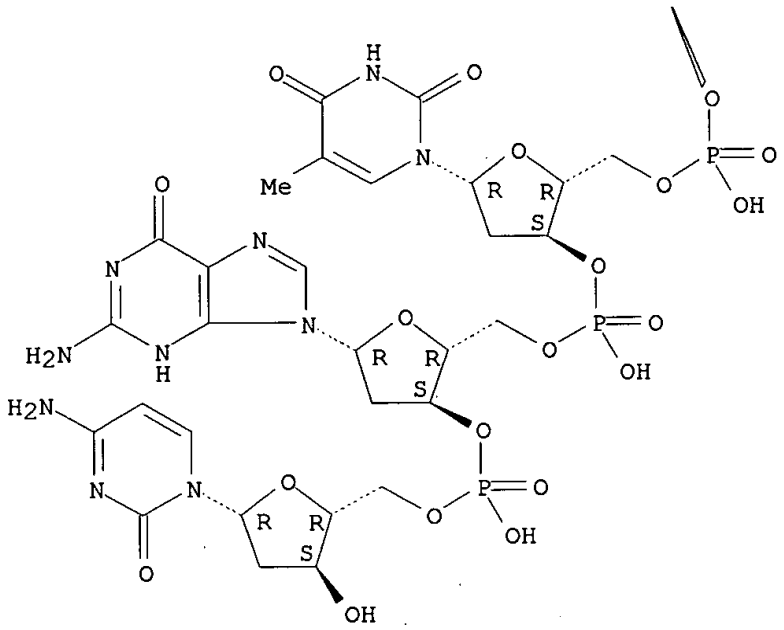
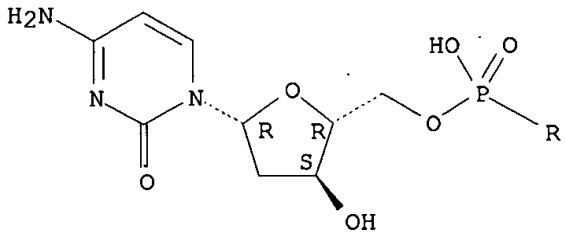


RN 105386-29-6 CAPLUS
CN Cytidine, 2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-1'-[4-(aminocarbonyl)-2,3-dihydro-2-oxo-1H-imidazol-1-yl]-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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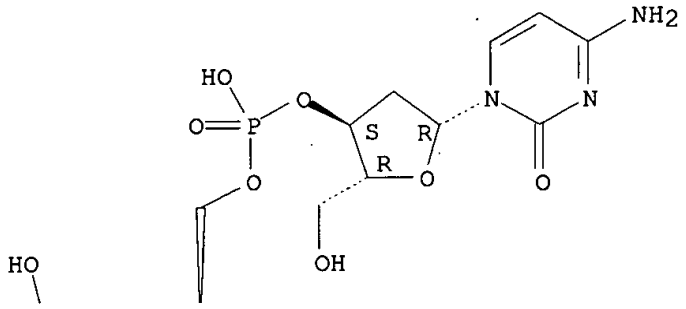

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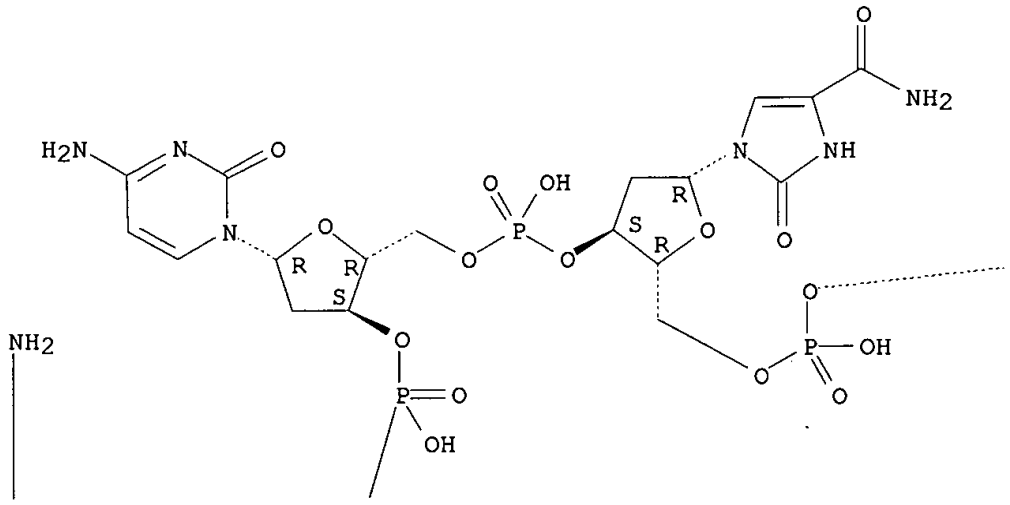

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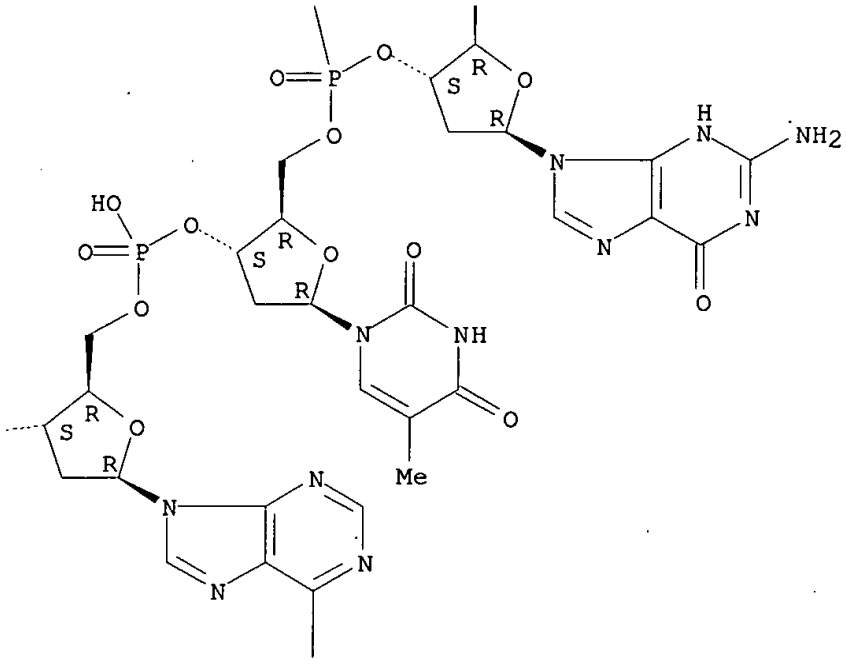

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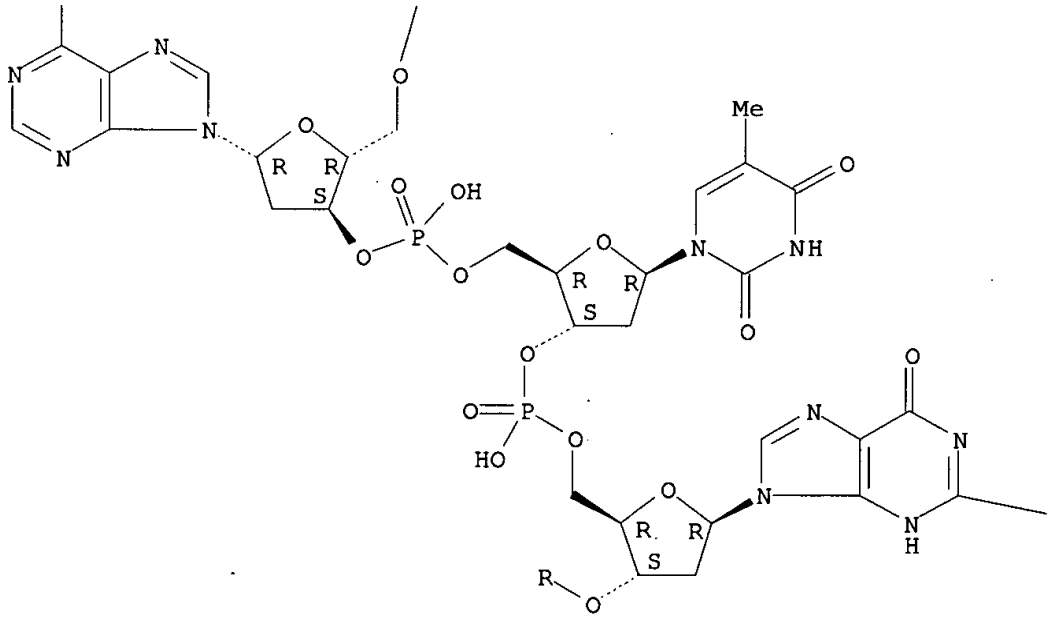

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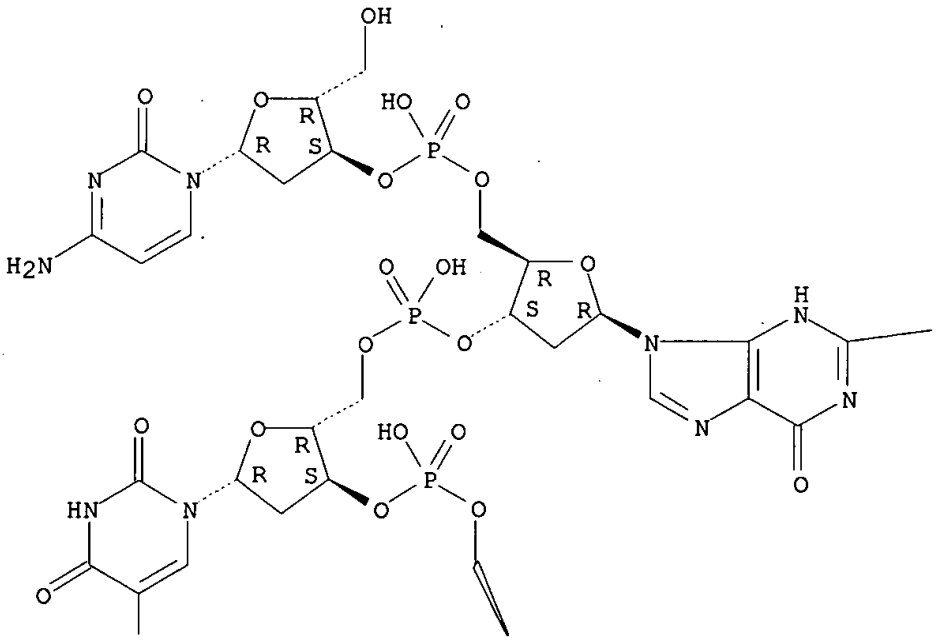
RN 105386-30-9 CAPLUS
CN Cytidine, 2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-1'-[4-(aminocarbonyl)-2,3-dihydro-2-oxo-1H-imidazol-1-yl]-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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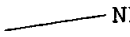

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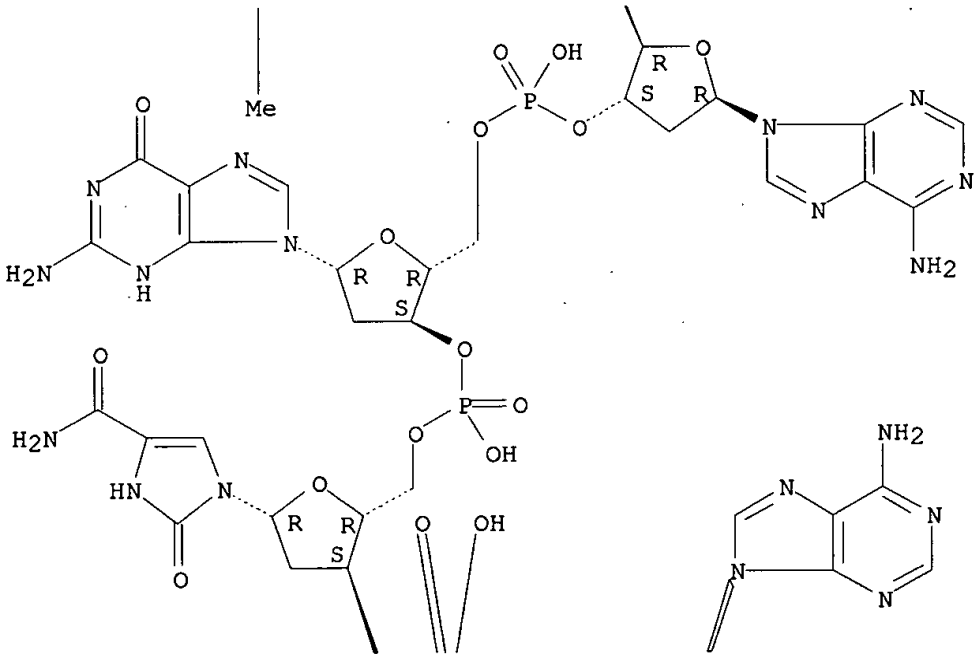

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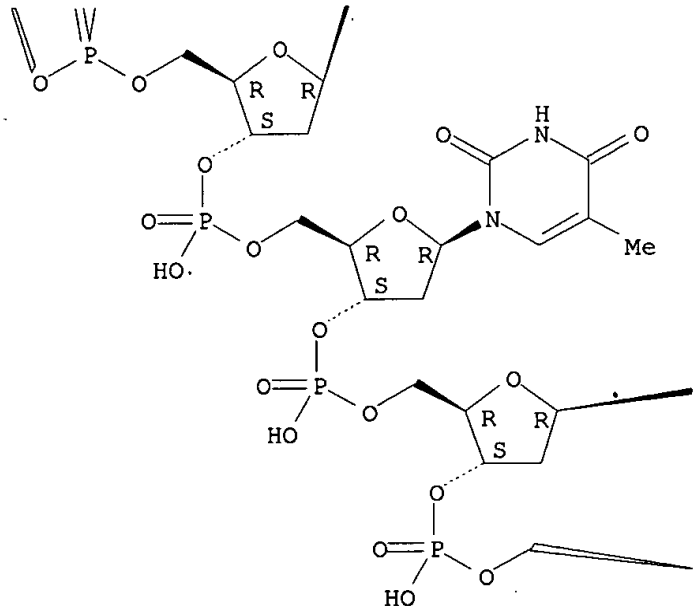

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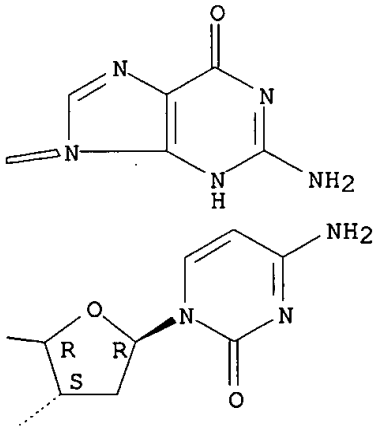

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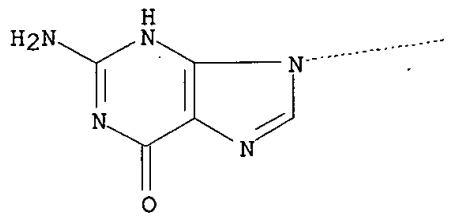
RN 105386-36-5 CAPLUS
CN Cytidine, 2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-1'-[4-(aminocarbonyl)-2,3-dihydro-2-oxo-1H-imidazol-1-yl]-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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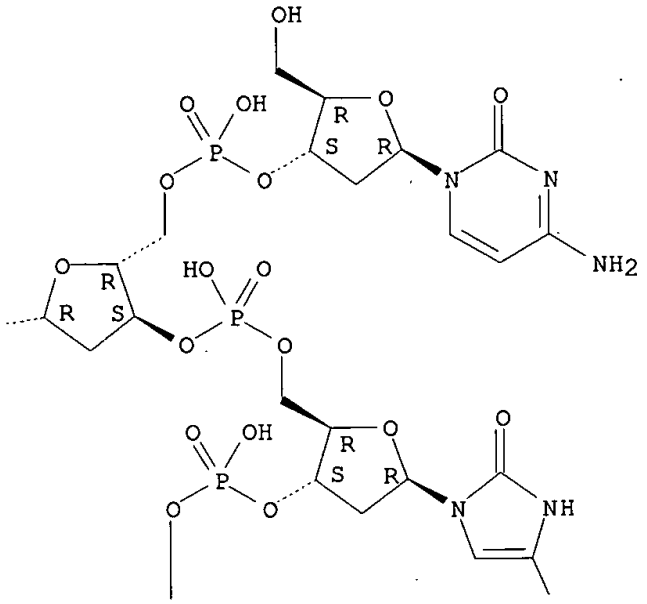

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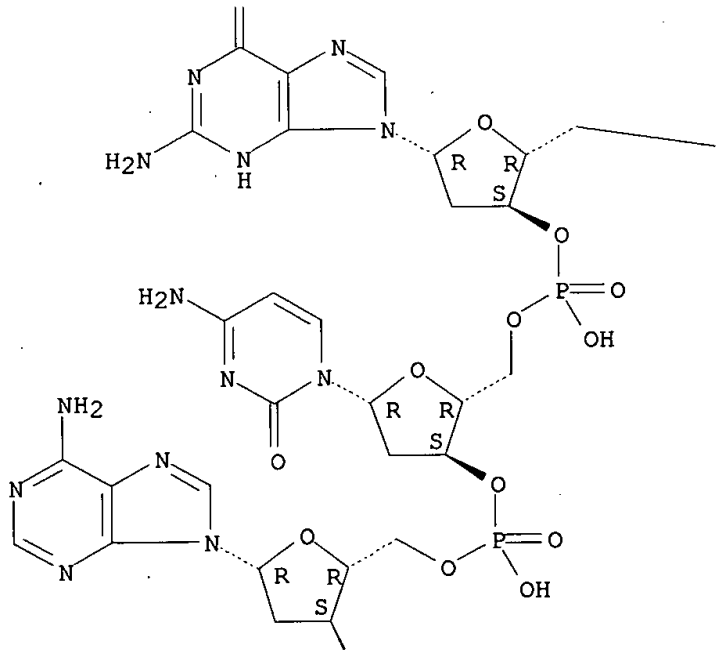

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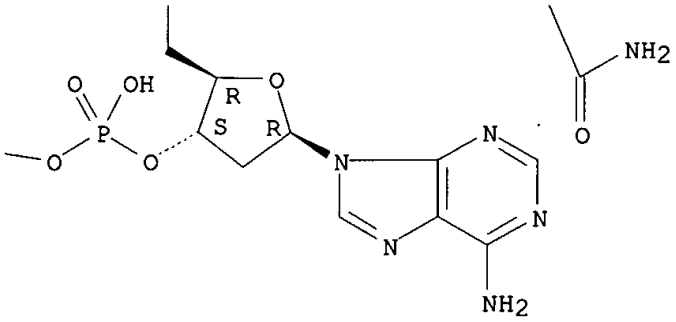

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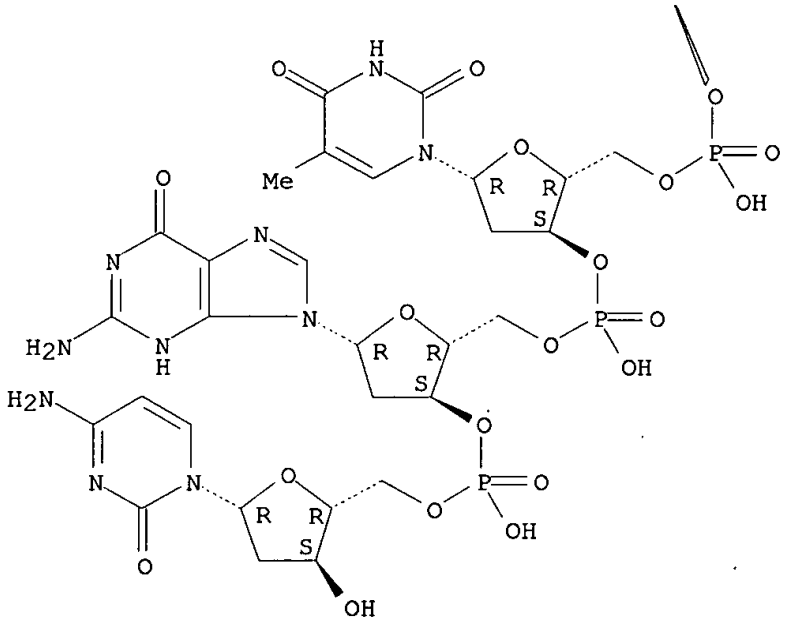
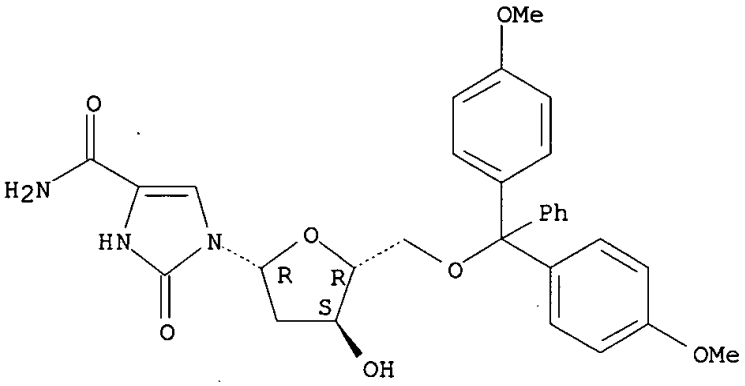


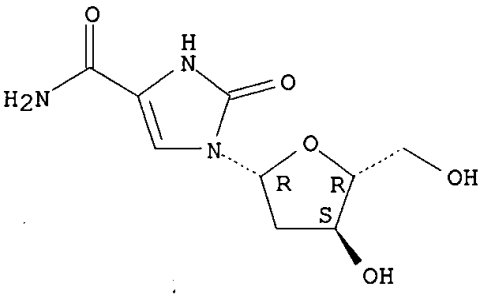
IT **105386-25-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and phosphorylation of)
RN 105386-25-2 CAPLUS
CN 1H-Imidazole-4-carboxamide, 1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-2-deoxy-β-D-erythro-pentofuranosyl]-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **105386-22-9P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and tritylation of)
RN 105386-22-9 CAPLUS
CN 1H-Imidazole-4-carboxamide, 1-(2-deoxy-β-D-erythro-pentofuranosyl)-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **105386-32-1P 105386-33-2P 105386-34-3P**
105386-35-4P 105408-11-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, for gene detection and isolation studies)
RN 105386-32-1 CAPLUS
CN Guanosine, 2'-deoxyguanylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxy-, complex with 2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-thymidylyl-(3'→5')-1'-[4-(aminocarbonyl)-2,3-dihydro-2-oxo-1H-imidazol-1-yl]-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxycytidine (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 105386-31-0

CMF C97 H123 N38 O58 P9

Absolute stereochemistry.

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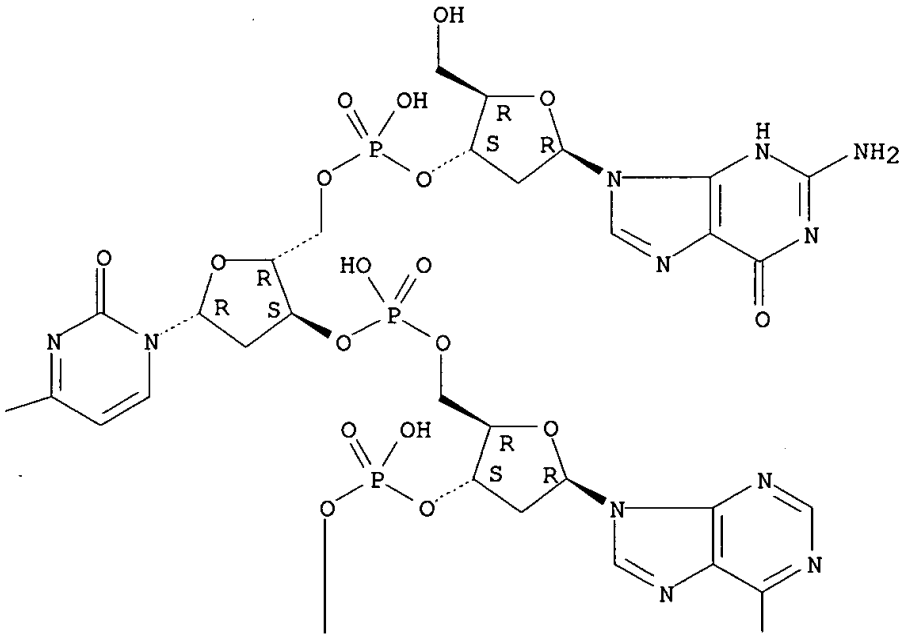
PAGE 1-B



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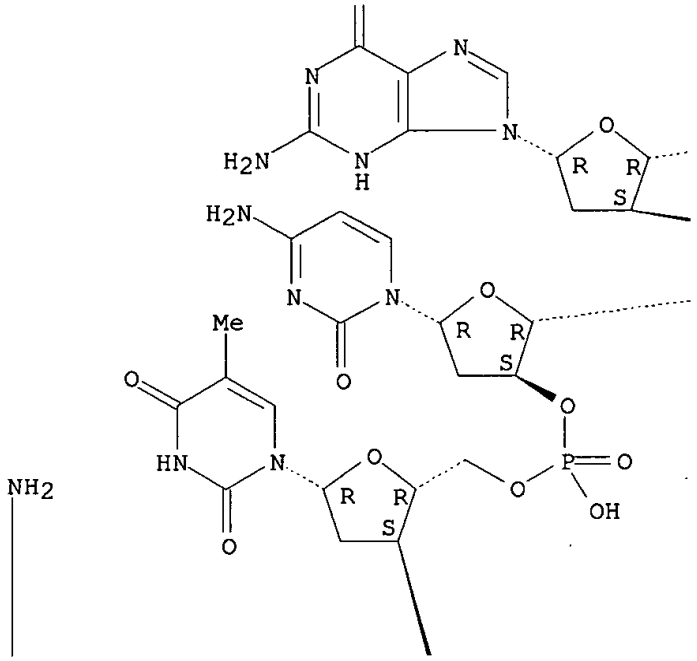

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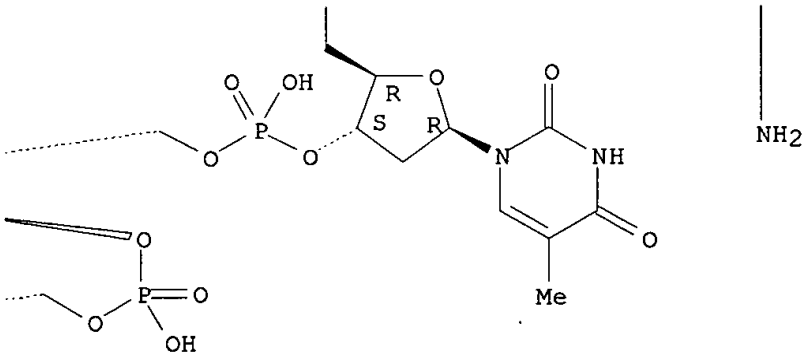

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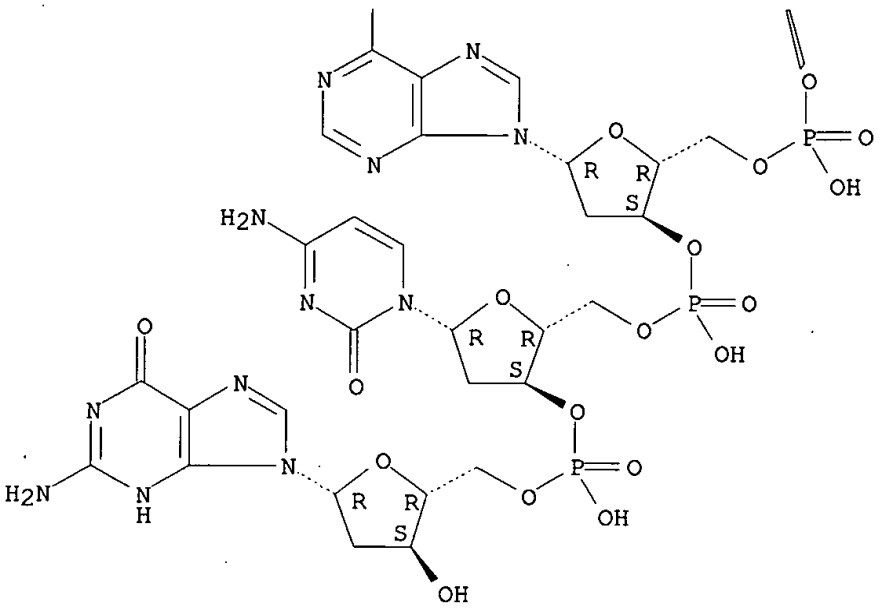
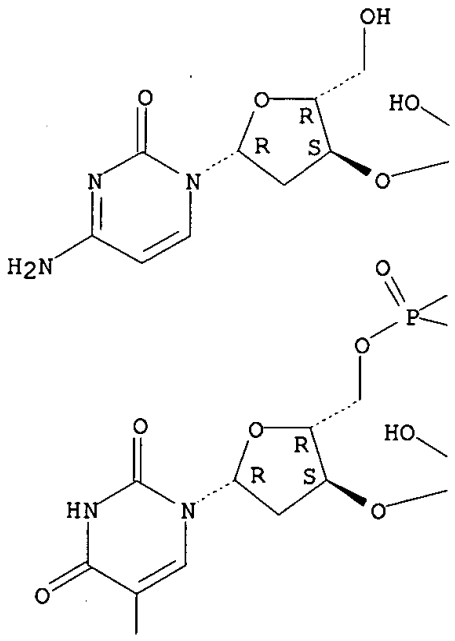


CM 2

CRN 105386-27-4
CMF C96 H123 N36 O60 P9

Absolute stereochemistry.

PAGE 1-A



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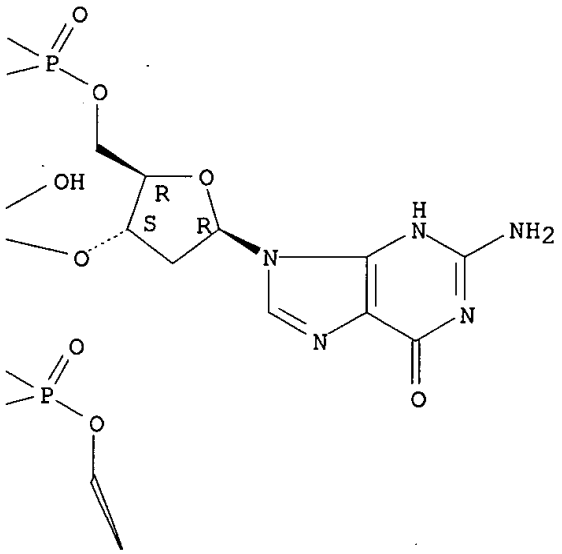

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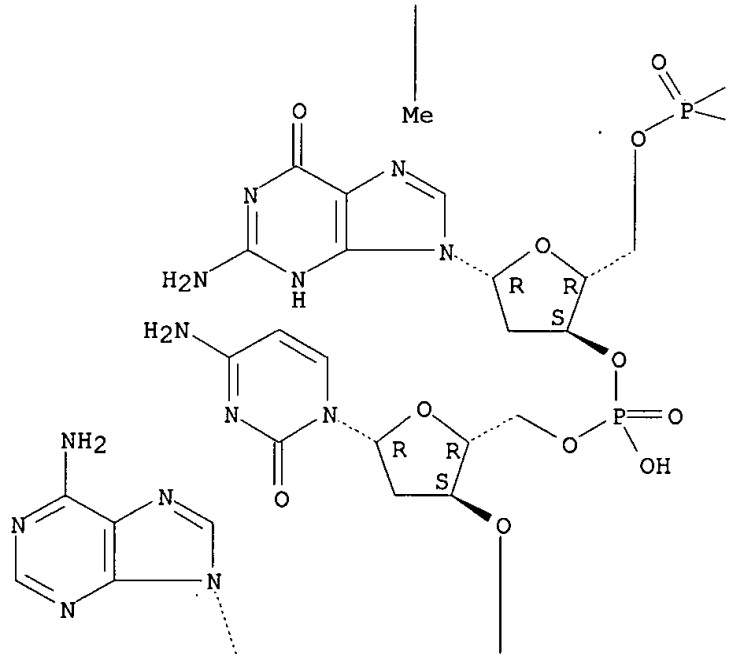

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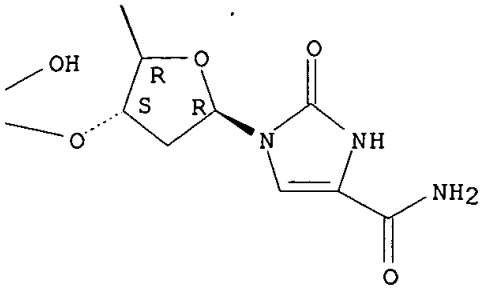

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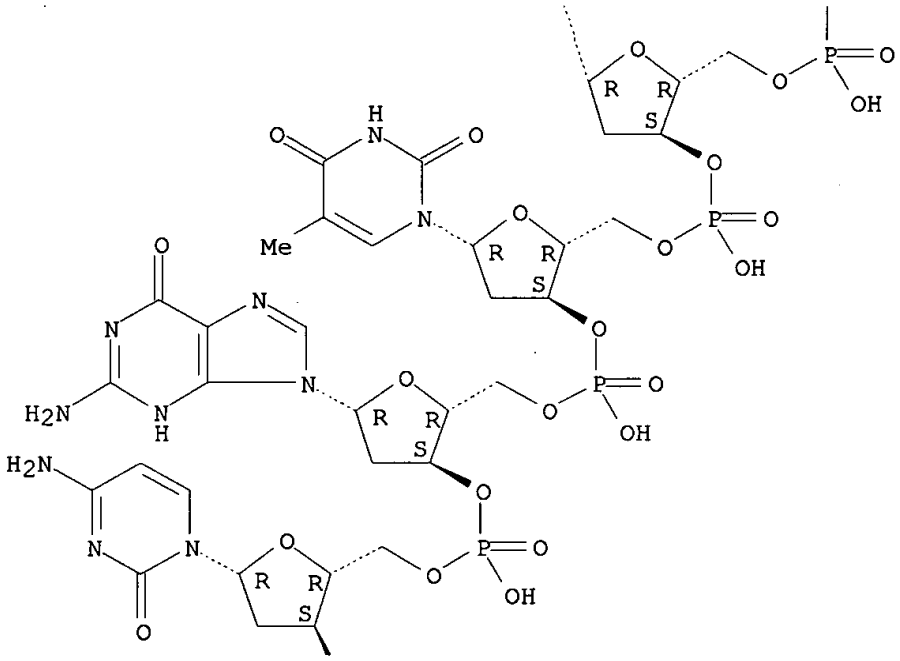

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RN 105386-33-2 CAPLUS
CN Guanosine, 2'-deoxyguanylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxy-, complex with 2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-1'-[4-(aminocarbonyl)-2,3-dihydro-2-oxo-1H-

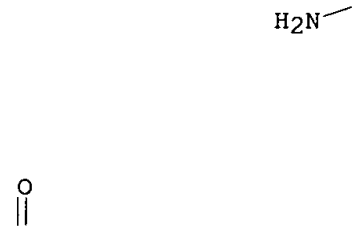
imidazol-1-yl]-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxycytidine (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 105386-31-0
CMF C97 H123 N38 O58 P9

Absolute stereochemistry.

PAGE 1-A



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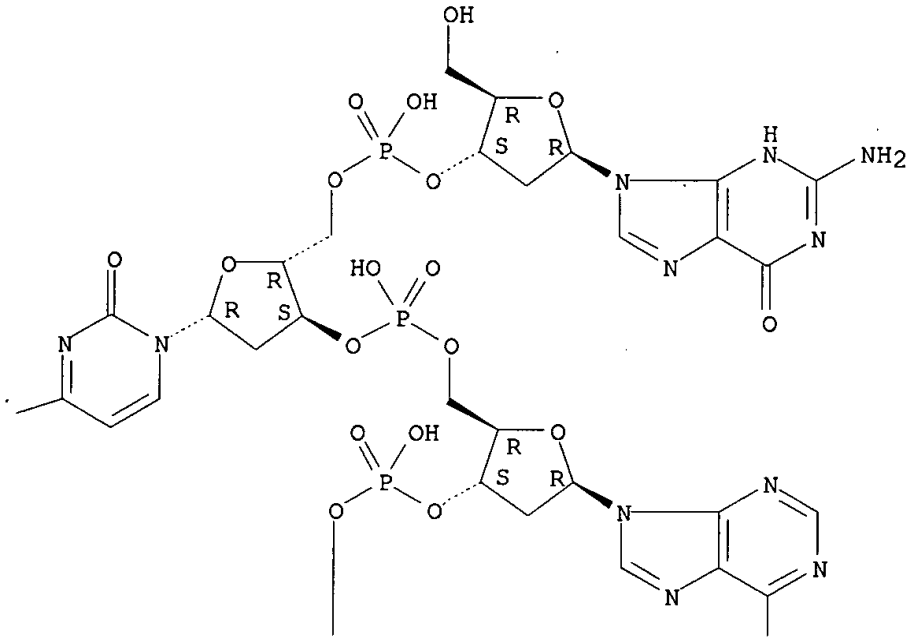

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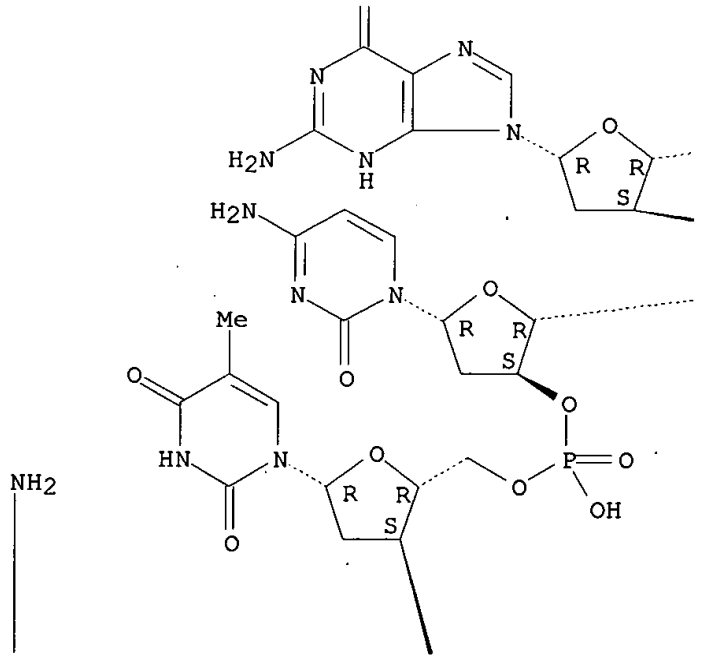

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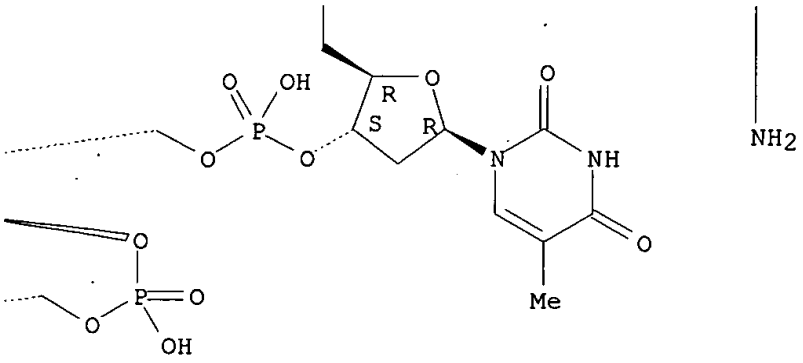
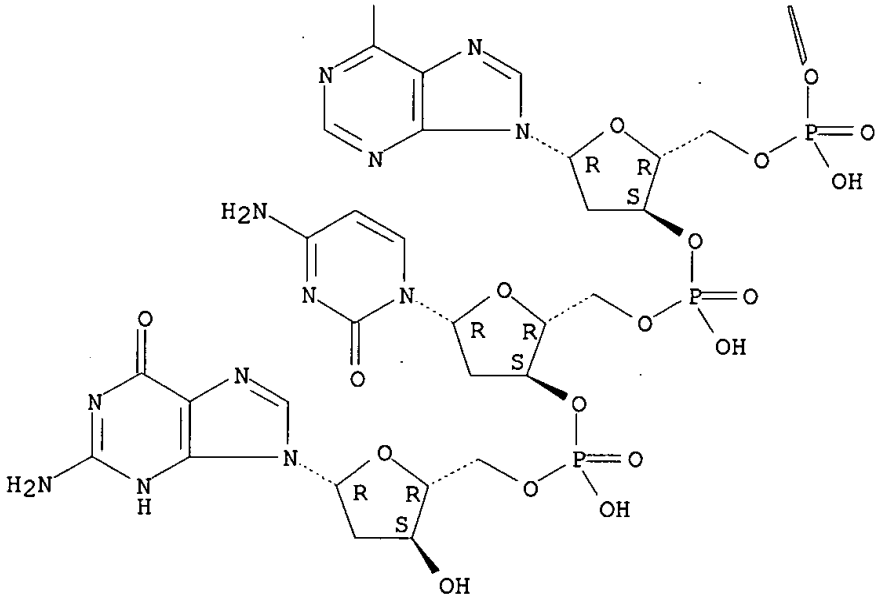


PAGE 3-A

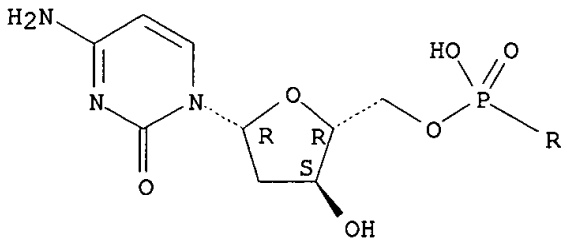


CM 2

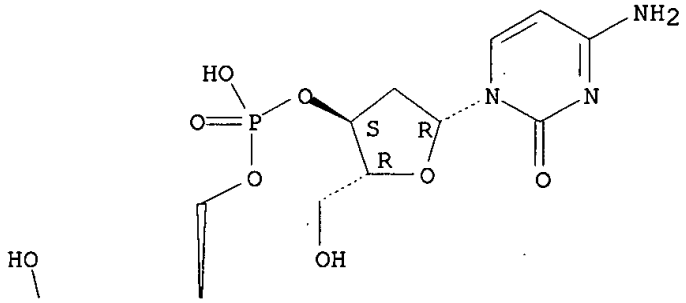
CRN 105386-29-6
CMF C96 H123 N36 O59 P9

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



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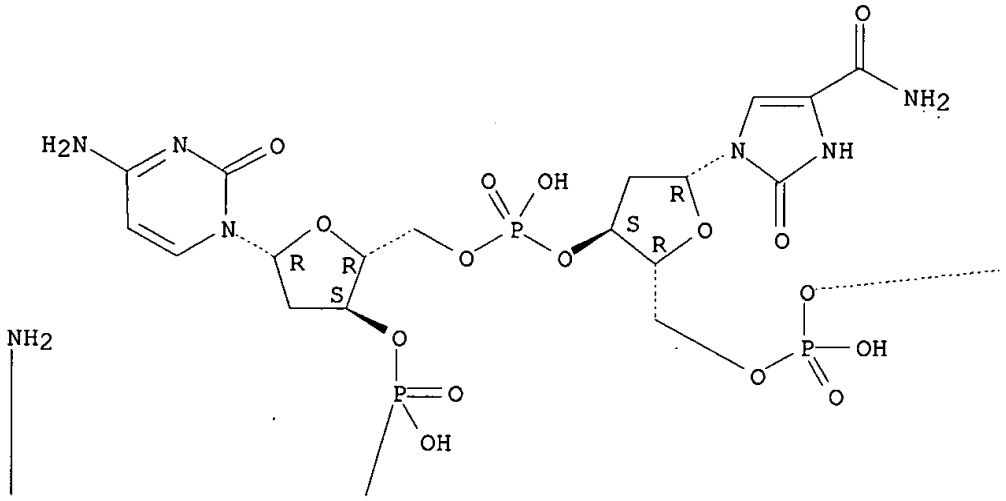
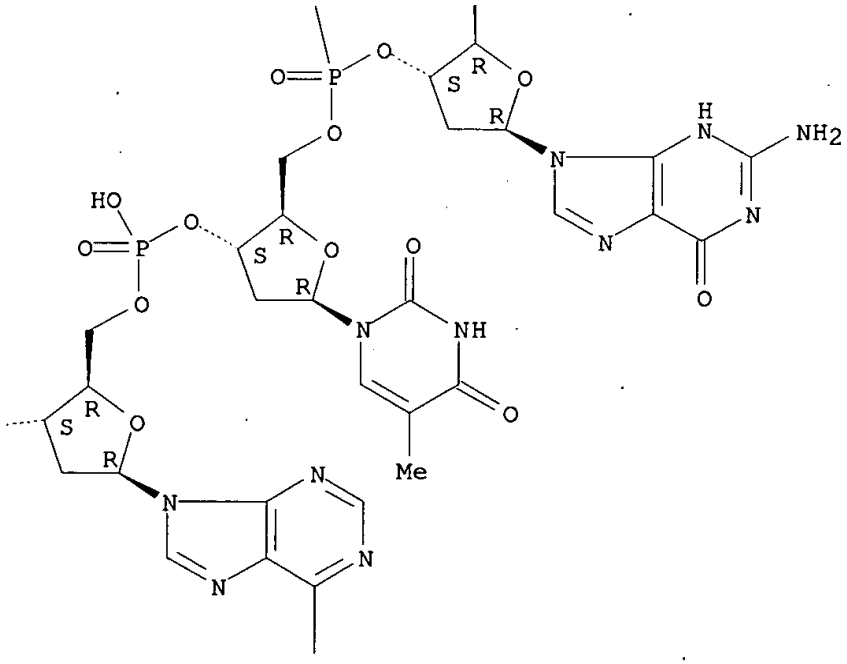
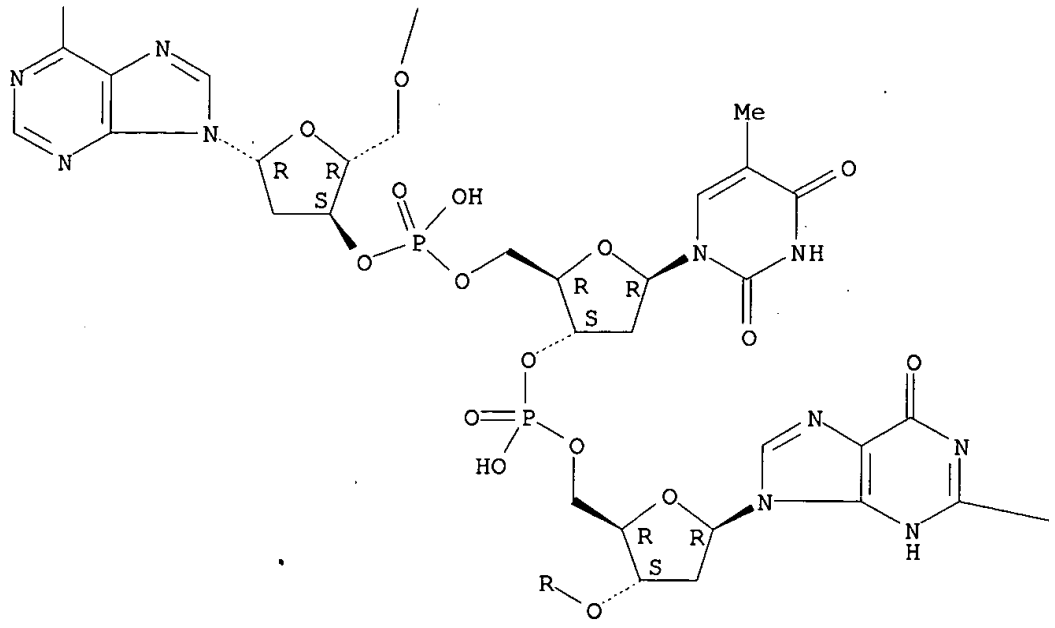


PAGE 2-B



PAGE 3-A



PAGE 3-B

RN 105386-34-3 CAPLUS
CN Guanosine, 2'-deoxyguanylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxy-, complex with 2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-1'-[4-

(aminocarbonyl)-2,3-dihydro-2-oxo-1H-imidazol-1-yl]-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxycytidine (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 105386-31-0
CMF C97 H123 N38 O58 P9

Absolute stereochemistry.

PAGE 1-A

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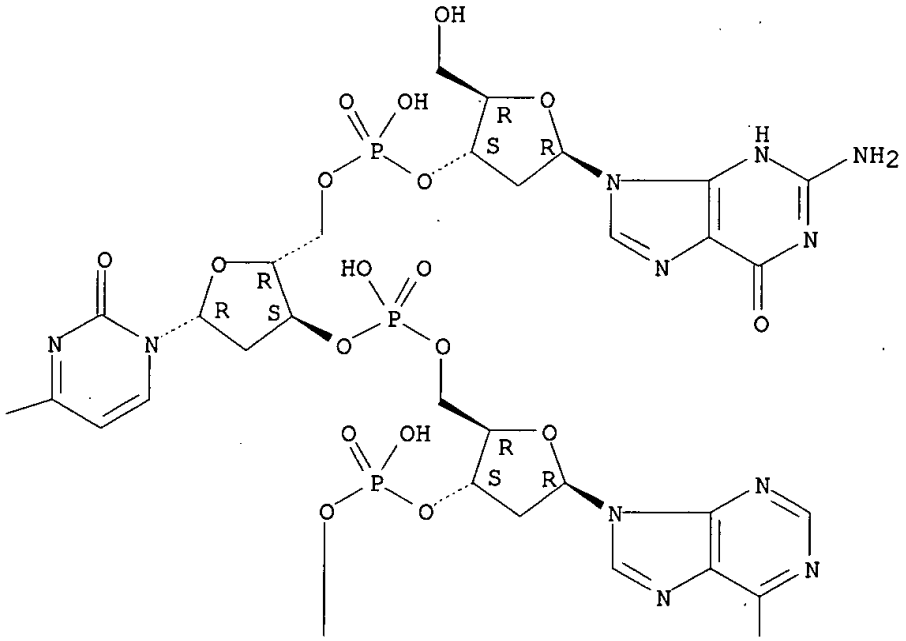
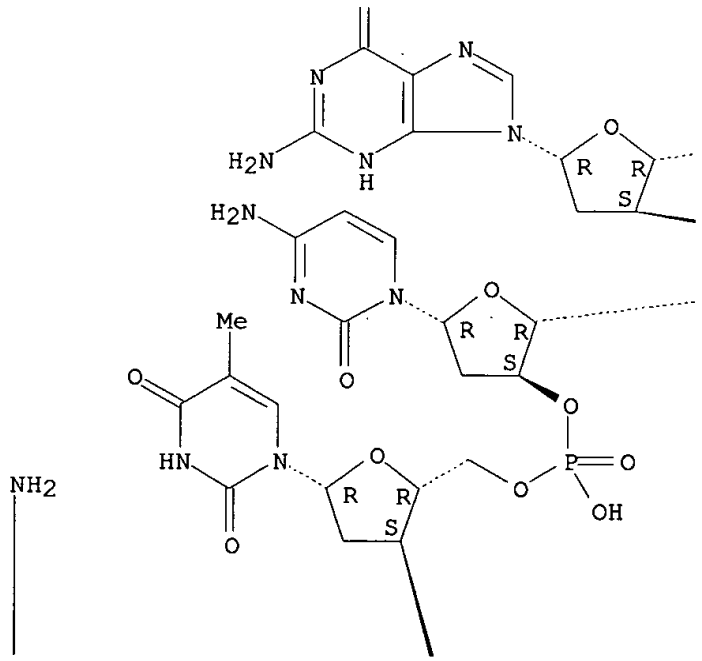


PAGE 2-A



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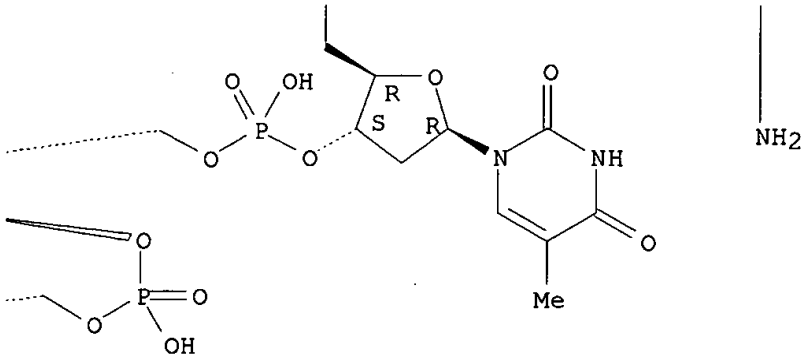
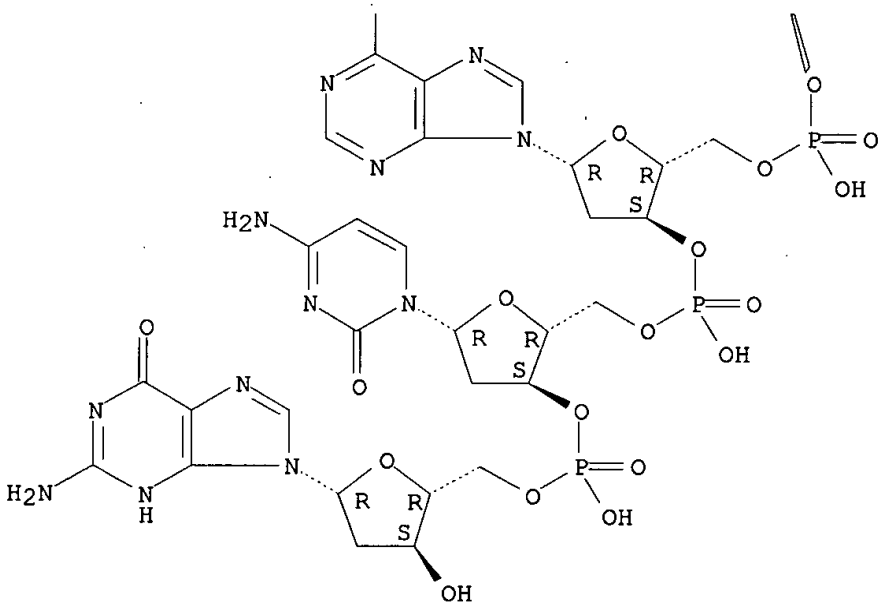


PAGE 3-A

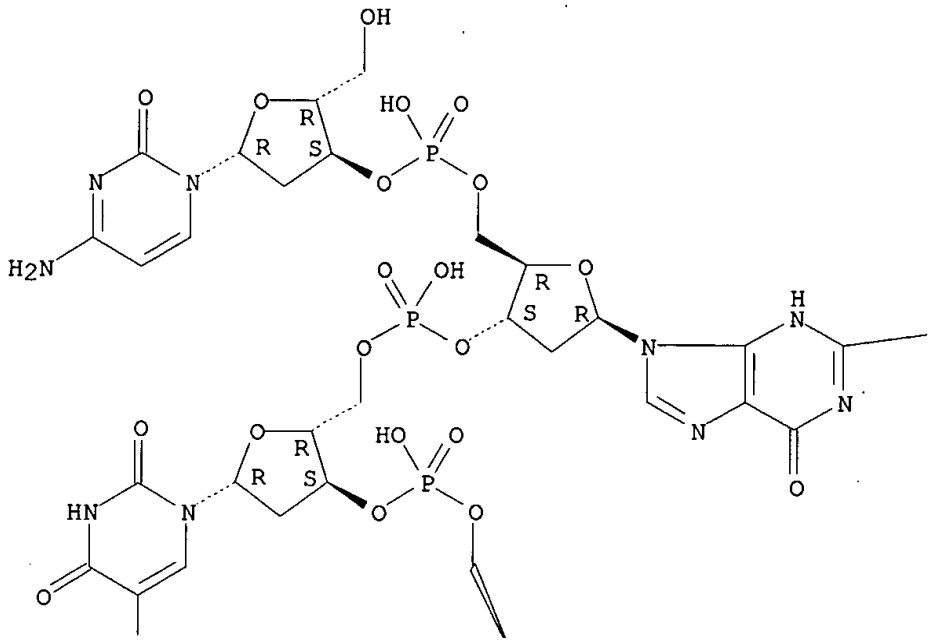


CM 2

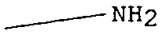
CRN 105386-30-9
CMF C97 H123 N38 O59 P9

Absolute stereochemistry.

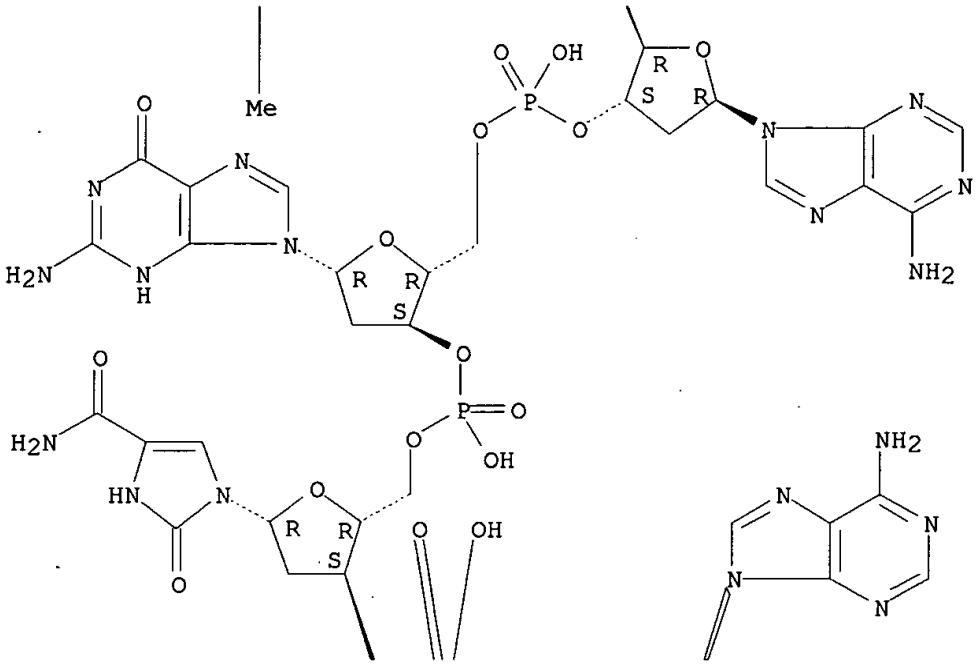
PAGE 1-A



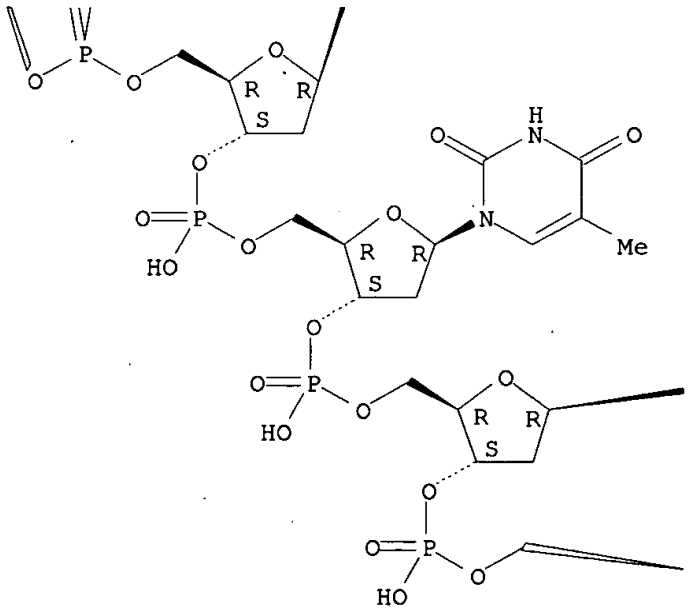
PAGE 1-B



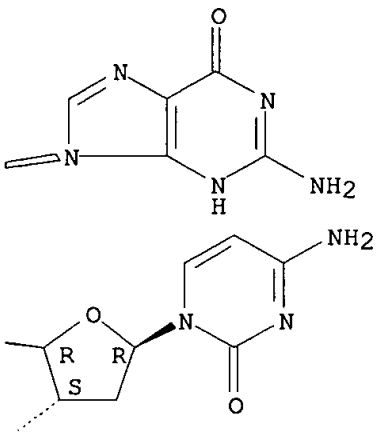
PAGE 2-A



PAGE 3-A



PAGE 3-B



PAGE 4-A

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RN 105386-35-4 CAPLUS

CN Guanosine, 2'-deoxyguanylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxy-, complex with 2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-1'-[4-(aminocarbonyl)-2,3-dihydro-2-oxo-1H-imidazol-1-yl]-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-1'-[4-(aminocarbonyl)-2,3-dihydro-2-oxo-1H-imidazol-1-yl]-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxycytidine (1:1) (9CI) (CA INDEX NAME)

CM 1

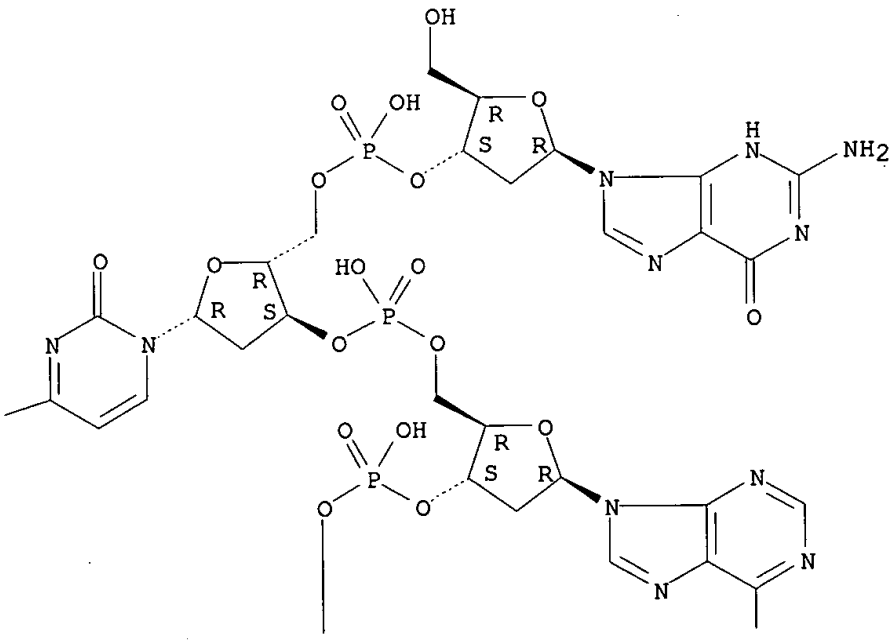
CRN 105386-31-0

CMF C97 H123 N38 O58 P9

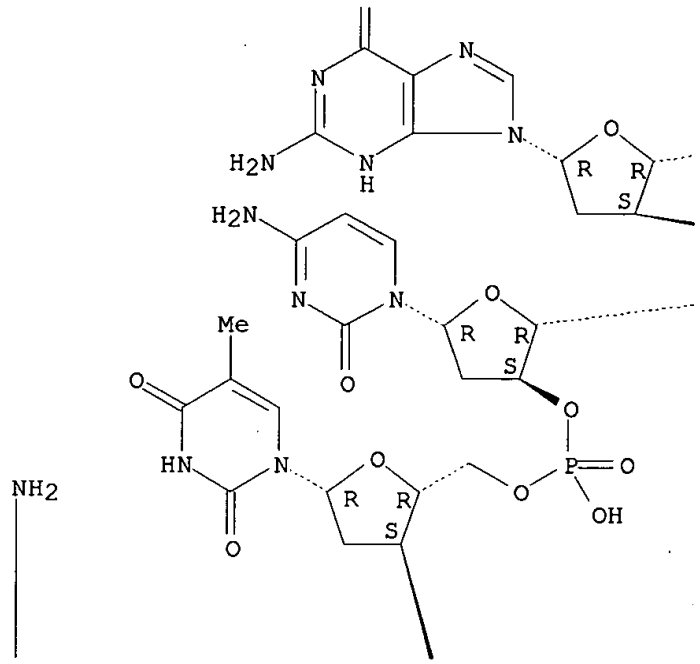
Absolute stereochemistry.

PAGE 1-A

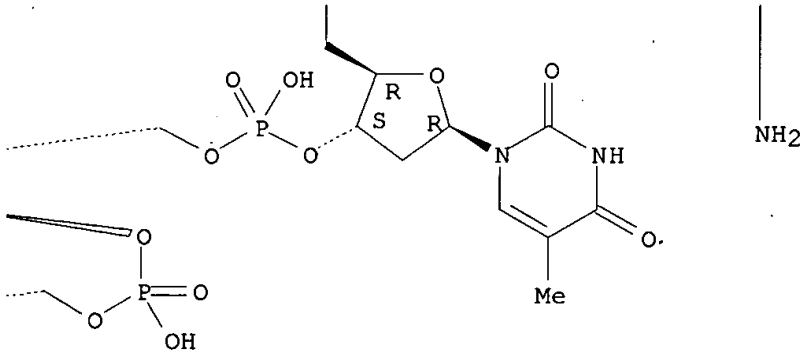
PAGE 1-B



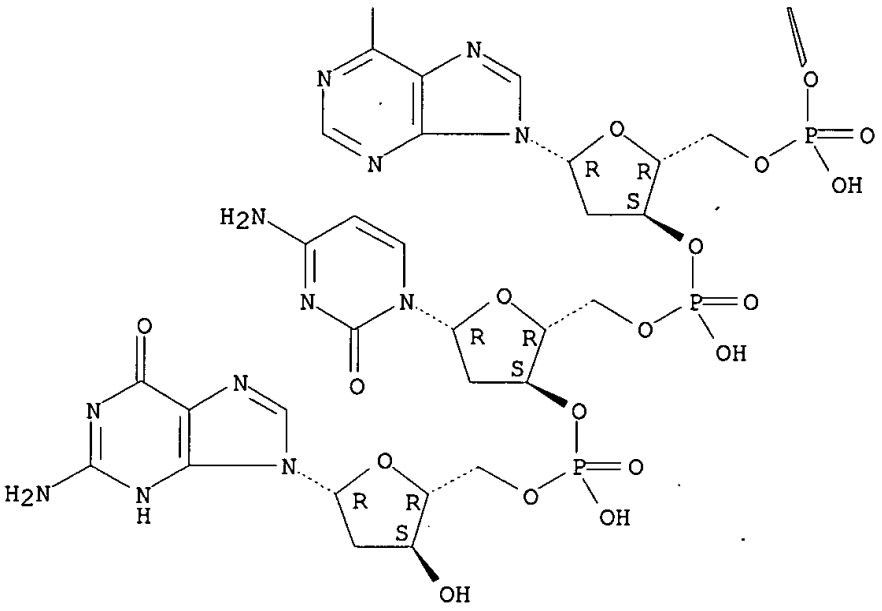
PAGE 2-A



PAGE 2-B



PAGE 3-A

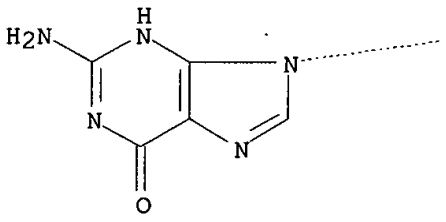


CM 2

CRN 105386-28-5
CMF C96 H122 N39 O59 P9

Absolute stereochemistry.

PAGE 1-A



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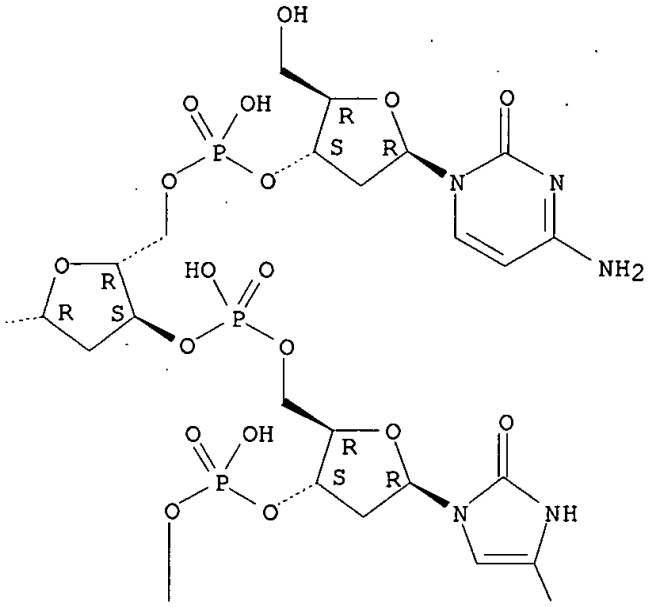
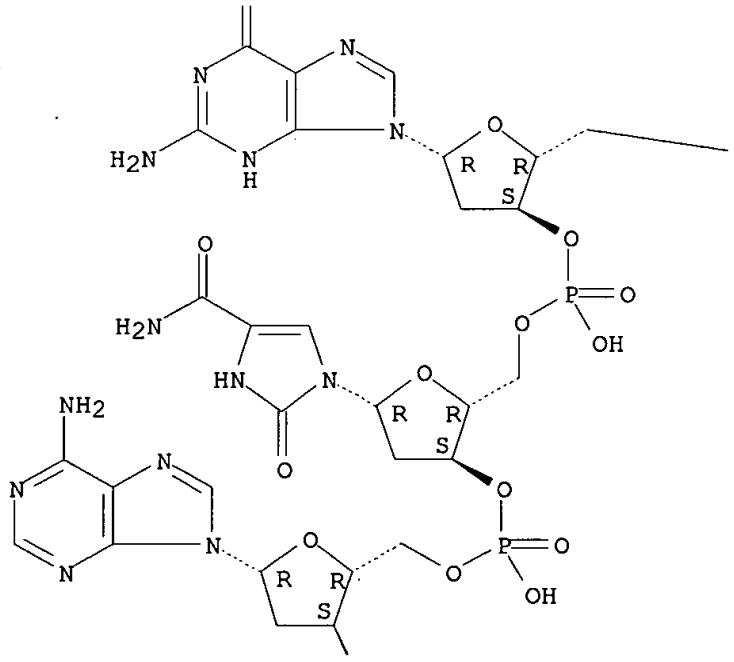
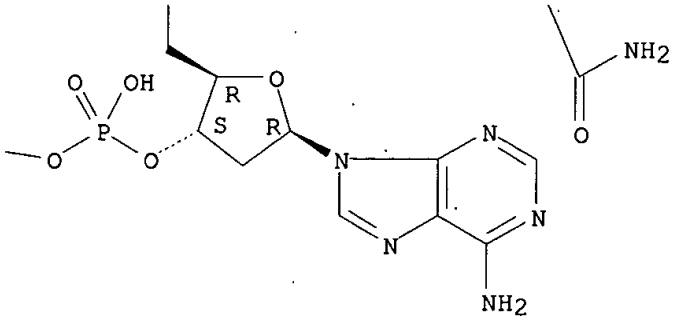


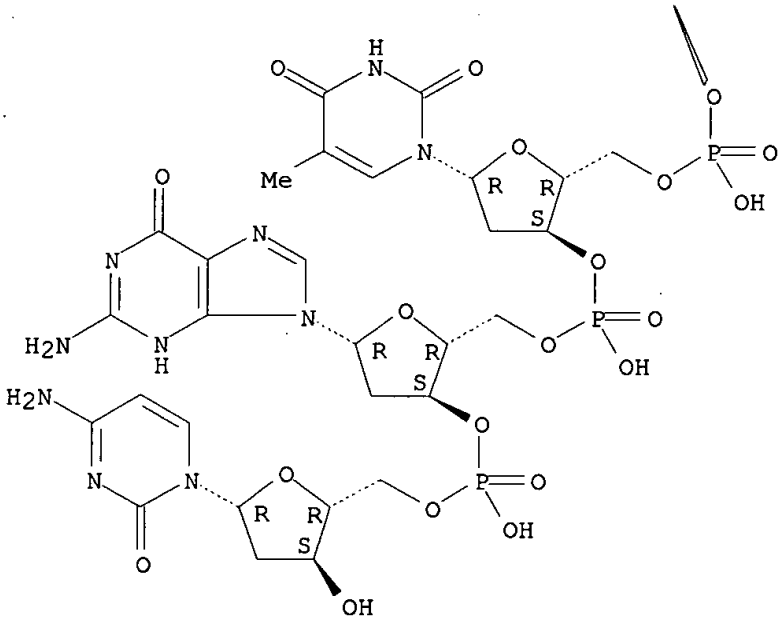
PAGE 2-A



PAGE 2-B



PAGE 3-A



RN 105408-11-5 CAPLUS
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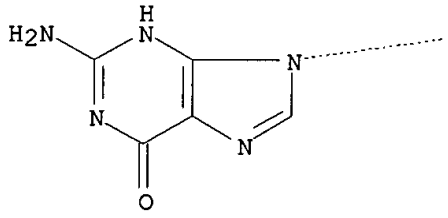
CM 1

CRN 105386-36-5
CMF C96 H122 N39 O58 P9

Absolute stereochemistry.

PAGE 1-A



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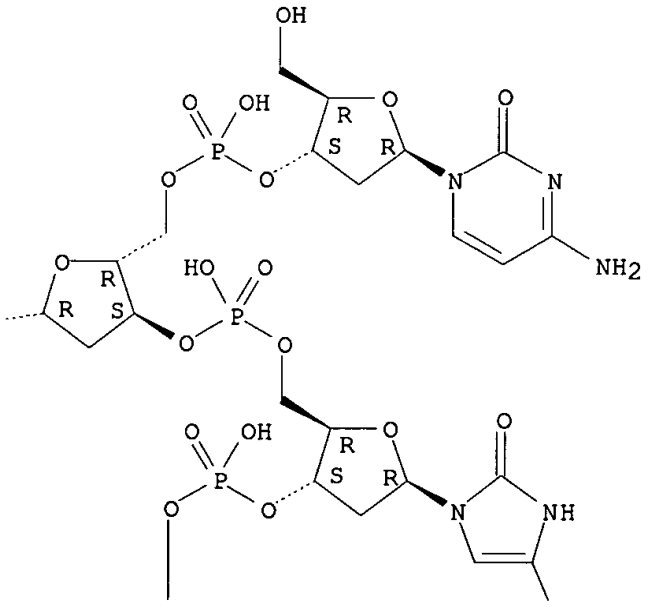
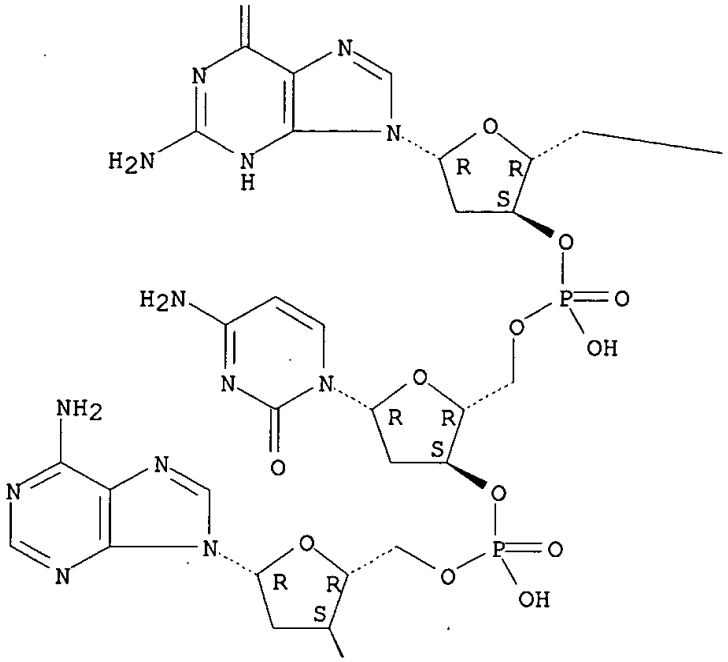
PAGE 1-B



PAGE 2-A



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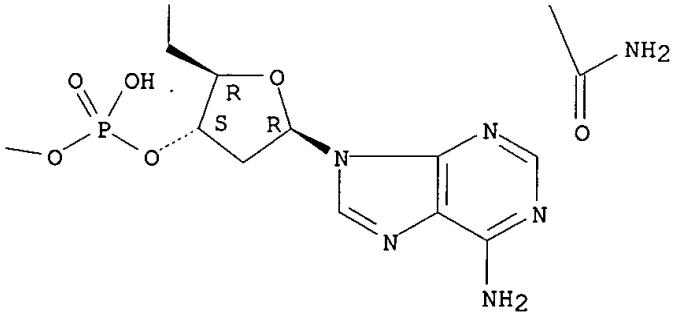

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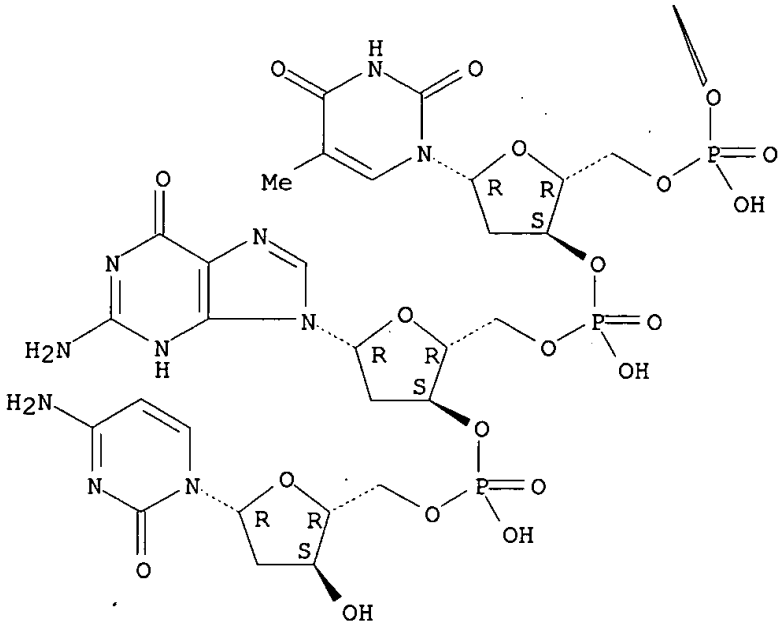


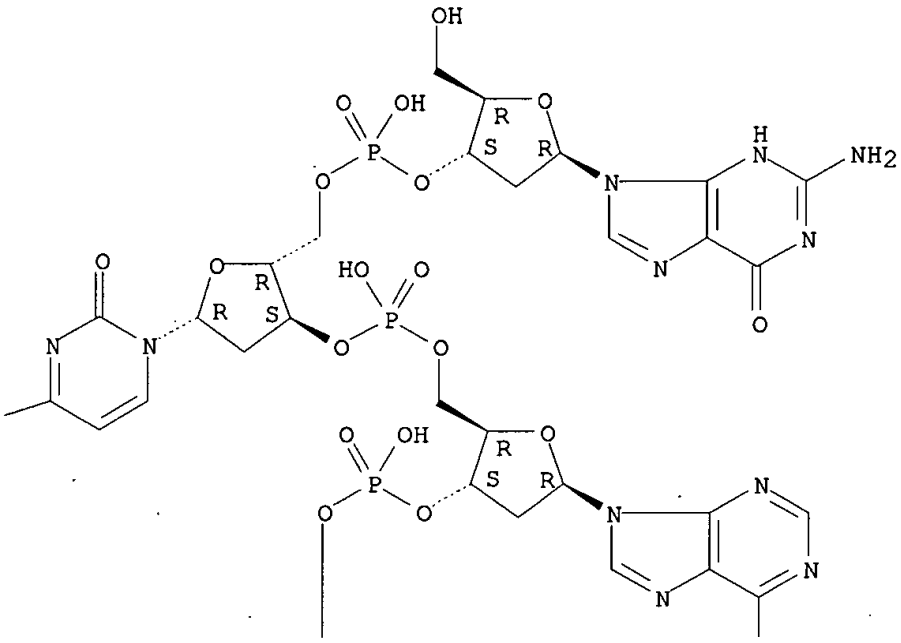
CM 2

CRN 105386-31-0
CMF C97 H123 N38 O58 P9

Absolute stereochemistry.

PAGE 1-A

PAGE 1-B



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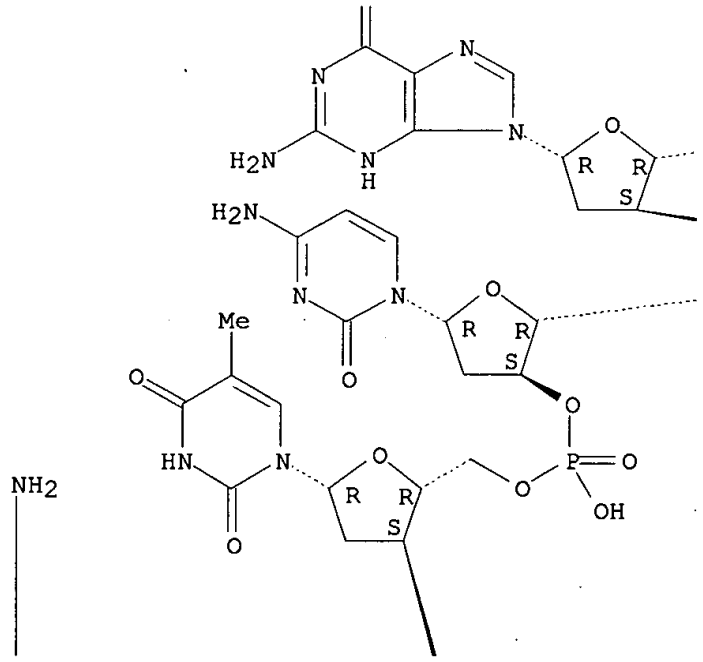

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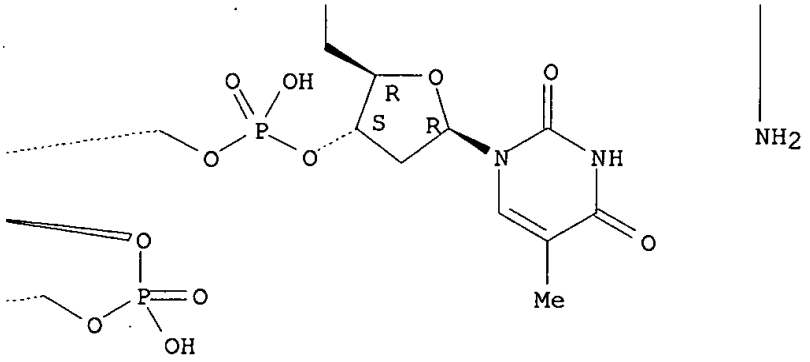

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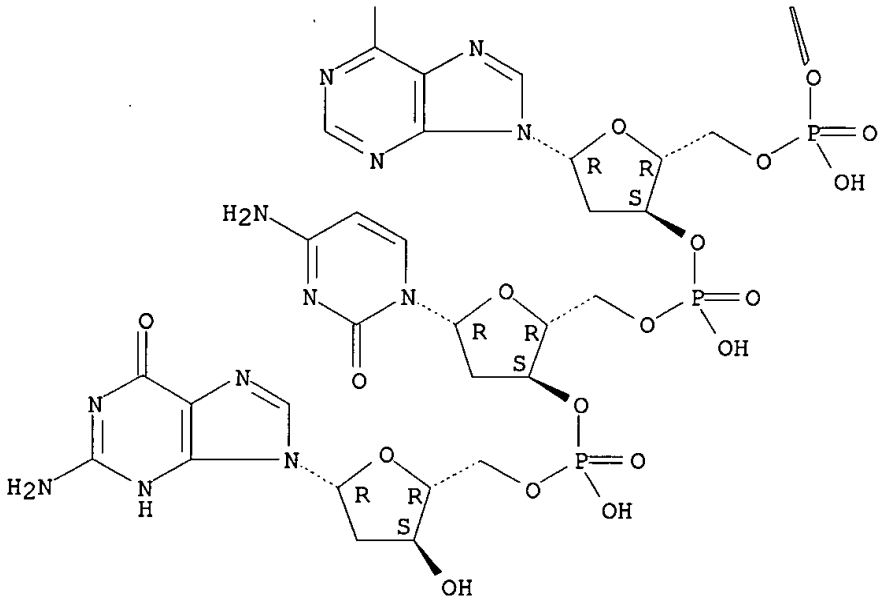
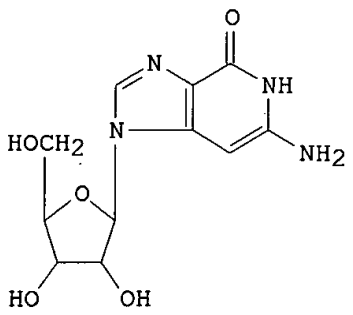


L3 ANSWER 16 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER:	1986:6118 CAPLUS
DOCUMENT NUMBER:	104:6118
TITLE:	Lithiation of an imidazole nucleoside at the C-5 position. Synthesis of 3-deazaguanosine from uridine
AUTHOR(S):	Tanaka, Hiromichi; Hirayama, Masashi; Matsuda, Akira; Miyasaka, Tadashi; Ueda, Tohru
CORPORATE SOURCE:	Sch. Pharm. Sci., Showa Univ., Tokyo, 142, Japan
SOURCE:	Chemistry Letters (1985), (5), 589-92 CODEN: CMLTAG; ISSN: 0366-7022
DOCUMENT TYPE:	Journal
LANGUAGE:	English
OTHER SOURCE(S):	CASREACT 104:6118

GI



I

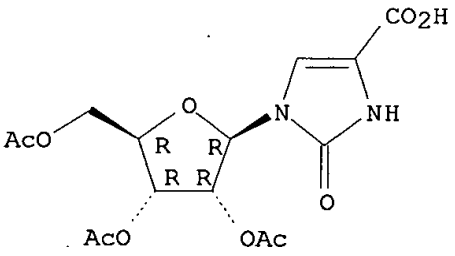
AB 3-Deazaguanosine (I), an antiviral nucleoside, was prepared from uridine via lithiation of a C-2 protected imidazole nucleoside, which has been devised as a method for introducing various functionalities to the C-5 position. This furnished the first successful example of the conversion of a naturally occurring nucleoside to a deazapurine nucleoside.

IT **66191-27-3**
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification, chlorination and deacetylation of)

RN 66191-27-3 CAPLUS

CN 1H-Imidazole-4-carboxylic acid, 2,3-dihydro-2-oxo-1-(2,3,5-tri-O-acetyl-β-D-ribofuranosyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

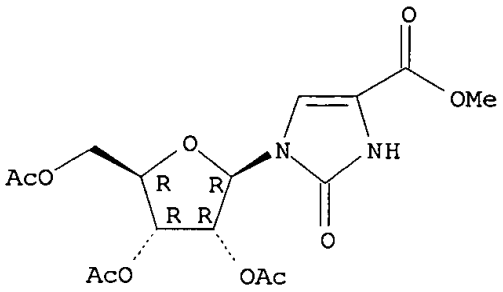


L3 ANSWER 17 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1985:615737 CAPLUS
DOCUMENT NUMBER: 103:215737
TITLE: 3-Deazaguanosine derivatives
PATENT ASSIGNEE(S): Yamasa Shoyu Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

JP 60109594 A2 19850615 JP 1983-217224 19831117
PRIORITY APPLN. INFO.: JP 1983-217224 19831117
GI For diagram(s), see printed CA Issue.
AB Antiviral (no data) title compds. I (R-R2 = H, protecting group) were prepared by reaction of imidazole nucleosides II (R3 = lower alkyl) with metal alkoxides in alc. followed by treatment with NH3. Thus, a MeOH solution of 480 mg II (RR1 = isopropylidene; R2 = CH2OMe; R3 = Me) was treated with MeONa at room temperature overnight and the resulting 5-[(methoxyimino)ethyl]imidazole derivative was treated by NH3 for 3 days to give 61.5% cyclized product, whose deprotection with 50% aqueous CF3CO2H afforded I (R-R2 = H).
IT **63542-20-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 63542-20-1 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 2,3-dihydro-2-oxo-1-(2,3,5-tri-O-acetyl-β-D-ribofuranosyl)-, methyl ester (9CI) (CA INDEX NAME)

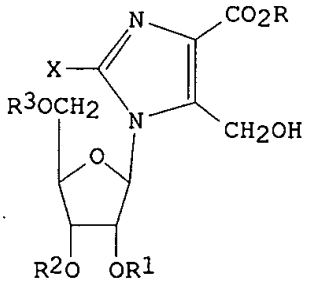
Absolute stereochemistry.



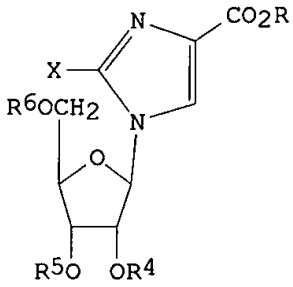
L3 ANSWER 18 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1985:615736 CAPLUS
DOCUMENT NUMBER: 103:215736
TITLE: Imidazole nucleoside derivatives
PATENT ASSIGNEE(S): Yamanouchi Pharmaceutical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 60109595	A2	19850615	JP 1983-217223	19831117

PRIORITY APPLN. INFO.: JP 1983-217223 19831117
GI



I



II

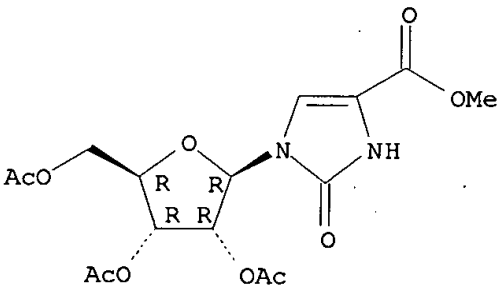
AB Imidazole nucleoside derivs. I (X = halo; R = lower alkyl; R1-R3 = H, protecting group), intermediates of antiviral 3-deazaguanosine, were prepared by treatment of nucleosides II (R4-R6 = protecting group) with organic Li compds. and formic acid esters, reduction, and optional deprotection. Thus, 1.2 g II (X = Cl; R = Me; R4R5 = Me2C; R6 = MeOCH2) in THF was treated with LiN(CHMe2)2 at -75° for 20 min, 0.38 mL HCO2Et added, and the mixture treated with NaBH4 to give 81.3% I (R = Me, R1R2 = Me2C, R3 = MeOCH2, X = Cl), which was converted to 3-deazaguanosine.

IT **63542-20-1**
RL: RCT (Reactant); RACT (Reactant or reagent)
(deacetylation and chlorination of)

RN 63542-20-1 CAPLUS

CN 1H-Imidazole-4-carboxylic acid, 2,3-dihydro-2-oxo-1-(2,3,5-tri-O-acetyl-β-D-ribofuranosyl)-, methyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L3 ANSWER 19 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1985:542298 CAPLUS

DOCUMENT NUMBER: 103:142298

TITLE: Analogs of nucleosides. XLIII. Preparation of ribosyl derivatives of 1,2,4-triazol-3(2H)-one and 5-methyl-1,2,4-triazol-3(2H)-one

AUTHOR(S): Hrebabecky, Hubert; Beranek, Jiri

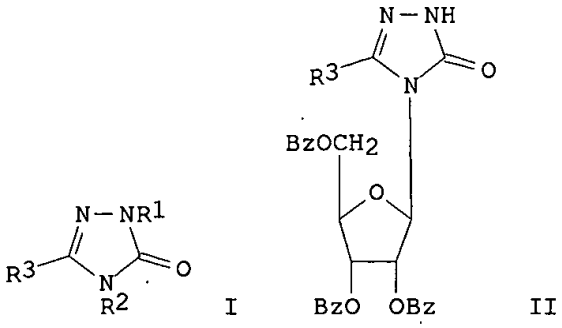
CORPORATE SOURCE: Inst. Org. Chem. Biochem., Czech. Acad. Sci., Prague, 166 10/6, Czech.

SOURCE: Collection of Czechoslovak Chemical Communications (1985), 50(3), 779-88
CODEN: CCCCAK; ISSN: 0366-547X

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 103:142298
GI



I II

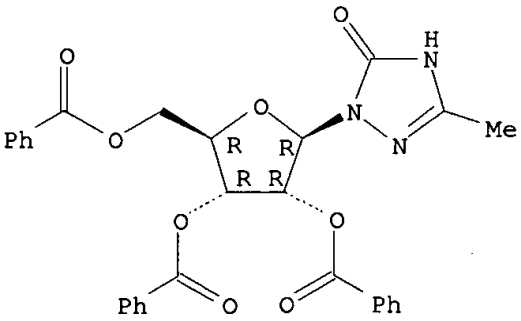
AB Glycosylation of silylated triazolone I (R1-R3 = H) with 2,3,5-tri-O-benzoyl-D-ribofuranosyl bromide gave a mixture of the 4-ribosyltriazolone II (R3 = H) and the 2,4-diribosyltriazolone. Similar glycosylation of I (R1 = R2 = H, R3 = Me) gave II (R3 = Me) and the 2-ribosyl derivative I (R1 = R3 = H, R2 = Ph; R1 = H, R2 = Ph, R3 = Me) and II (R3 = H, Me) were alternatively prepared by cyclization of the corresponding 1-ethoxymethylene-, 1-(1-ethoxyethylidene)-4-phenyl- and 4-ribosylsemicarbazides, e.g., (E)-4-(2,3,5-tri-O-benzoyl-β-D-ribosfuranosyl)-1-ethoxymethylenesemicarbazide was refluxed with hexamethyldisilazane and ammonium sulfate in xylene for 10 h to give 53% II (R3 = H). Benzylation of I (R1 = R2 = H; R3 = H, Me) was also studied.

IT **98292-41-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and debenzoylation of)

RN 98292-41-2 CAPLUS

CN 3H-1,2,4-Triazol-3-one, 2,4-dihydro-5-methyl-2-(2,3,5-tri-O-benzoyl-β-D-ribofuranosyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



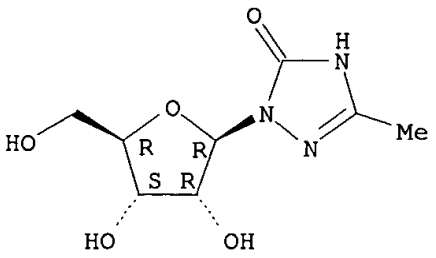
IT **98320-86-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 98320-86-6 CAPLUS

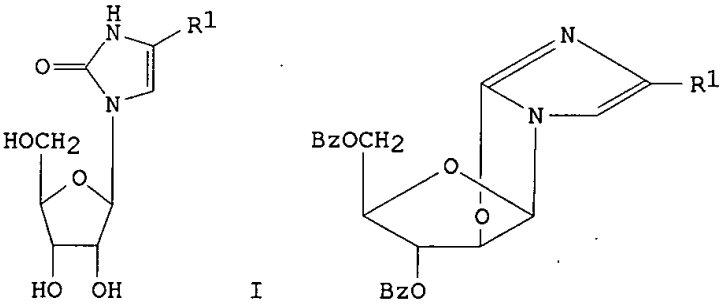
CN 3H-1,2,4-Triazol-3-one, 1,2-dihydro-5-methyl-2-β-D-ribofuranosyl-

(9CI) (CA INDEX NAME)

Absolute stereochemistry.



L3 ANSWER 20 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1984:630925 CAPLUS
DOCUMENT NUMBER: 101:230925
TITLE: Formation of cyclonucleosides of 2-oxo-4-imidazoline
AUTHOR(S): Koenig, Joachim; Cech, Dieter
CORPORATE SOURCE: Sekt. Chem., Humboldt-Univ. Berlin, Berlin, DDR-1040, Ger. Dem. Rep.
SOURCE: Zeitschrift fuer Chemie (1984), 24(6), 209
CODEN: ZECEAL; ISSN: 0044-2402
DOCUMENT TYPE: Journal
LANGUAGE: German
GI



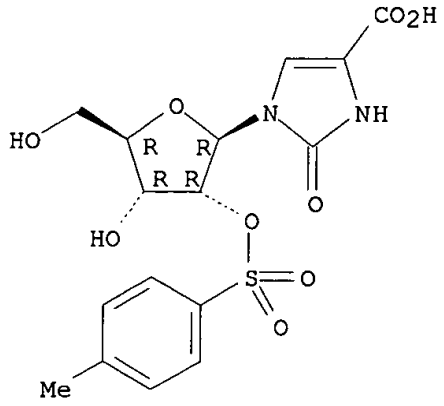
AB Treating imidazoline nucleosides I (R1 = H, CO2H) with p-MeC6H4SO3H gave the 2'-tosyl derivs. which (R1 = CO2H) was cyclized by NaOMe at room temperature and benzoylated to give 62% II.

IT **92994-96-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and cyclization of)

RN 92994-96-2 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 2,3-dihydro-1-[2-O-[(4-methylphenyl)sulfonyl]-β-D-ribofuranosyl]-2-oxo- (9CI) (CA INDEX

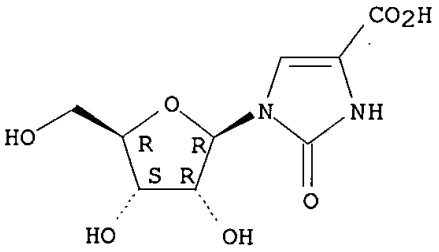
NAME)

Absolute stereochemistry.



IT **19556-57-1**
RL: RCT (Reactant); RACT (Reactant or reagent)
(tosylation and cyclization of)
RN 19556-57-1 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 2,3-dihydro-2-oxo-1-β-D-ribofuranosyl- (9CI) (CA INDEX NAME)

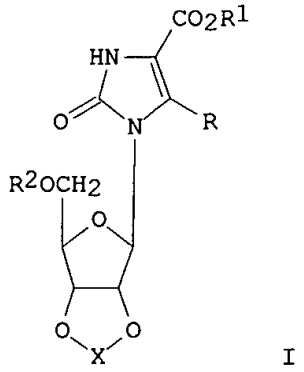
Absolute stereochemistry.



L3 ANSWER 21 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1980:586748 CAPLUS
DOCUMENT NUMBER: 93:186748
TITLE: Imidazoline nucleosides
INVENTOR(S): Ueda, Toru; Tanaka, Hiromichi
PATENT ASSIGNEE(S): Yamasa Shoyu Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 55035044	A2	19800311	JP 1978-108515	19780906

PRIORITY APPLN. INFO.: JP 1978-108515 19780906
GI



I

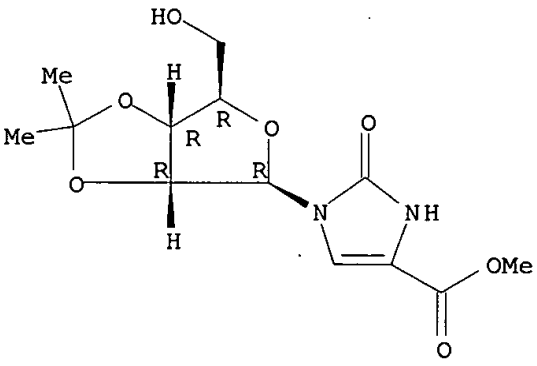
AB Imidazoline nucleosides I (R = CH2OH, R1 = alkyl, aralkyl; R2 = H, protecting group; X = H, H or protecting group) were prepared by treating I (R = H, R1 = alkyl) with HCHO under alkaline conditions and esterifying the resulting I (R = CH2OH, R1 = alkali metal). Thus, treating 1-(2,3-O-isopropylidene-β-D-ribofuranosyl)-2-oxoimidazoline-4-carboxylic acid Me ester in 1 N NaOH with HCHO and esterifying the resulting 1-(2,3-O-isopropylidene-β-D-ribofuranosyl)-2-oxo-5-(hydroxymethyl)imidazoline-4-carboxylic acid Na salt with MeOH-MeI gave 91% 1-(2,3-O-isopropylidene-β-D-ribofuranosyl)-2-oxo-5-(hydroxymethyl)imidazoline-4-carboxylic acid Me ester.

IT **66191-29-5**
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydroxymethylation of)

RN 66191-29-5 CAPLUS

CN 1H-Imidazole-4-carboxylic acid, 2,3-dihydro-1-[2,3-O-(1-methylethylidene)-β-D-ribofuranosyl]-2-oxo-, methyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

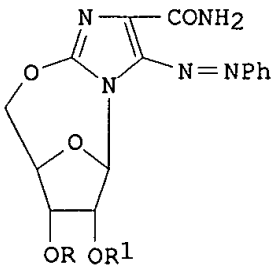


L3 ANSWER 22 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1979:474852 CAPLUS

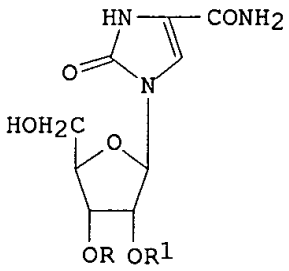
DOCUMENT NUMBER: 91:74852
TITLE: Cycloimidazoline riboside derivatives
INVENTOR(S): Ueda, Makoto; Tanaka, Hiromichi
PATENT ASSIGNEE(S): Yamasa Shoyu Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 54032494	A2	19790309	JP 1977-97290	19770812

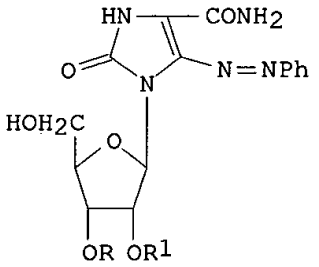
PRIORITY APPLN. INFO.: JP 1977-97290 19770812
GI



I



II



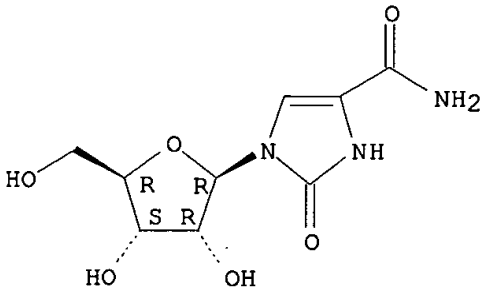
III

AB The title ribosides I [R = R1 = H; or (RR1)Me2C] were prepared by reaction of II with diazotized PhNH2 followed, e.g., by treating the resulting III with alkyl- or arylsulfonyl agents and then with alkali. Thus, 700 mg 98.5% NaNO2 in H2O was added to 931 mg PhNH2 in 30 mL 1N HCl with ice cooling, 1.5 g NaOAc added, 3 g II (RR1 = Me2C) in 20 mL 1N NaOH added, and the mixture stirred 1 h to give 94.5% III (RR1 = Me2C) (IV). Tosyl chloride (1.1 g) was added to 2.02 g IV in pyridine with ice cooling, the mixture kept overnight at room temperature, and 1.15 g tosyl chloride added to give, after overnight, 2.77 g of an intermediate, which was refluxed with 2.5 mL Et3N in CHCl3 to give 98.6% I (RR1 = Me2C).

IT **63542-21-2 66191-30-8**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with diazotized aniline)

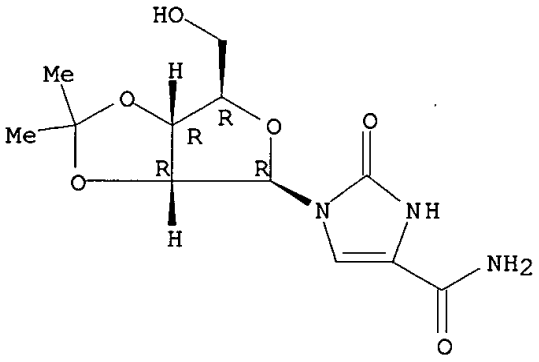
RN 63542-21-2 CAPLUS
CN 1H-Imidazole-4-carboxamide, 2,3-dihydro-2-oxo-1-β-D-ribofuranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 66191-30-8 CAPLUS
CN 1H-Imidazole-4-carboxamide, 2,3-dihydro-1-[2,3-O-(1-methylethylidene)-β-D-ribofuranosyl]-2-oxo- (9CI) (CA INDEX NAME)

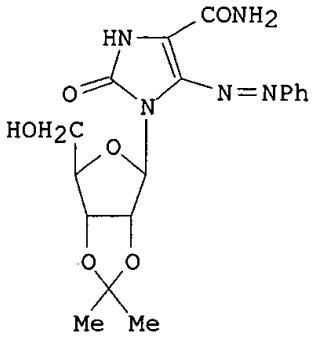
Absolute stereochemistry.



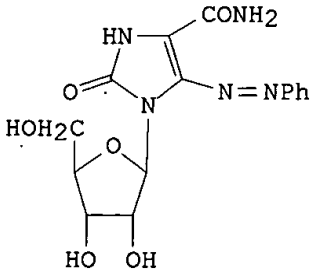
L3 ANSWER 23 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1979:457425 CAPLUS
DOCUMENT NUMBER: 91:57425
TITLE: Imidazoline riboside derivatives
INVENTOR(S): Ueda, Makoto; Tanaka, Hiromichi
PATENT ASSIGNEE(S): Yamasa Shoyu Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 54032469	A2	19790309	JP 1977-97289	19770812

PRIORITY APPLN. INFO.: JP 1977-97289 19770812
GI



I



II

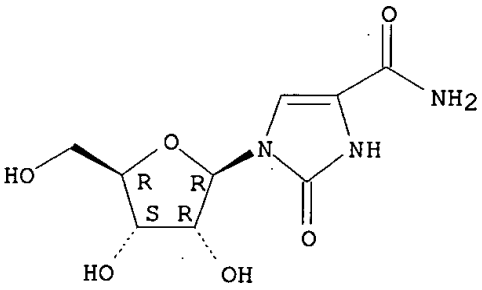
AB Treating 931 mg PhNH2 in 30 mL 1N HCl successively with 700 mg 98.5% NaNO2 in H2O, 1.5 g NaOAc.3H2O, and 3 g 1-(β-2,3-O-isopropylidene-D-ribofuranosyl)-2-oxo-4-imidazoline-4-carboxamide in 20 mL 1N NaOH and then stirring 1 h gave 94% I. II was similarly prepared from 1-β-D-ribofuranosyl-2-oxo-4-imidazoline-4-carboxamide and diazotized PhNH2.

IT **63542-21-2 66191-30-8**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with diazotized aniline)

RN 63542-21-2 CAPLUS

CN 1H-Imidazole-4-carboxamide, 2,3-dihydro-2-oxo-1-β-D-ribofuranosyl- (9CI) (CA INDEX NAME)

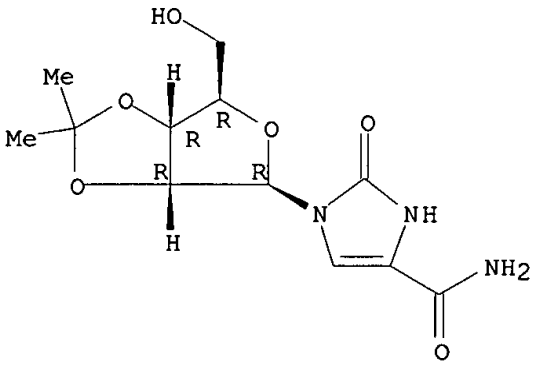
Absolute stereochemistry.



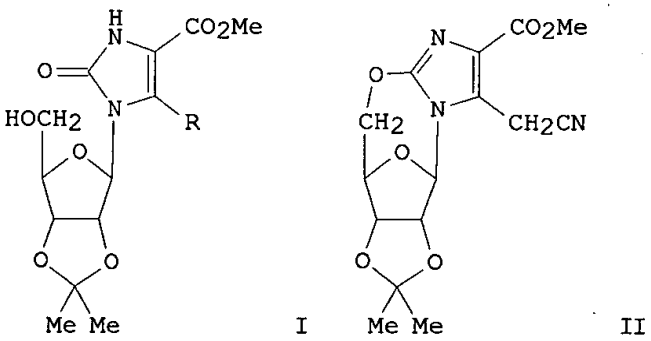
RN 66191-30-8 CAPLUS

CN 1H-Imidazole-4-carboxamide, 2,3-dihydro-1-[2,3-O-(1-methylethylidene)-β-D-ribofuranosyl]-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L3 ANSWER 24 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1979:420948 CAPLUS
DOCUMENT NUMBER: 91:20948
TITLE: Chemical conversion of uridine to 8,5'-O-cyclo-3-deazaguanosine
AUTHOR(S): Tanaka, Hiromichi; Ueda, Tohru
CORPORATE SOURCE: Fac. Pharm. Sci., Hokkaido Univ., Sapporo, 060, Japan
SOURCE: Journal of Heterocyclic Chemistry (1979), 16(2), 411-12
CODEN: JHTCAD; ISSN: 0022-152X
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



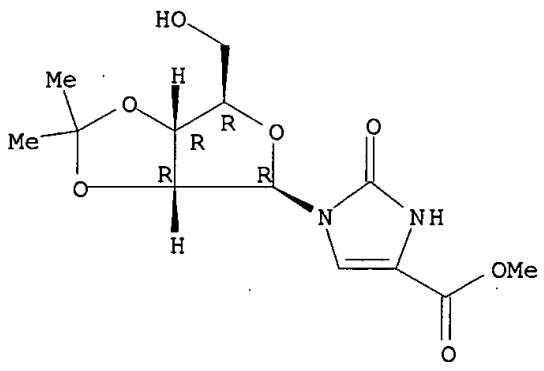
I II

AB Treatment of 1-(2,3-O-isopropylidene-β-D-ribofuranosyl)-2-oxo-4-imidazoline-4-carboxylic acid Me ester with CH2O gave I (R = CH2OH) which, after acetylation, gave I (R = CN) by treatment with Bu4NCN. The 2,5'-O-cyclo derivative of the 5-cyanomethylimidazole-4-carboxylate II was converted to the title compound by treatment with ammonia. The present sequence of reactions confirmed the chem. conversion of uridine to a 3-deazaguanosine via the imidazole nucleoside as the intermediate.

IT **66191-29-5**
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydroxymethylation of)
RN 66191-29-5 CAPLUS

CN 1H-Imidazole-4-carboxylic acid, 2,3-dihydro-1-[2,3-O-(1-methylethylidene)-β-D-ribofuranosyl]-2-oxo-, methyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

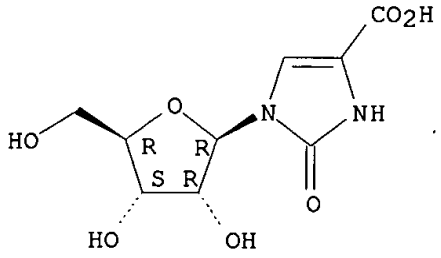


L3 ANSWER 25 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1979:138133 CAPLUS
DOCUMENT NUMBER: 90:138133
TITLE: Nucleosides and nucleotides. XXV. Synthesis and optical properties of 2,5'-O-cycloimidazole nucleosides and related compounds
AUTHOR(S): Tanaka, Hiromichi; Takahashi, Takako; Togashi, Hiroyuki; Ueda, Tohru
CORPORATE SOURCE: Fac. Pharm. Sci., Hokkaido Univ., Sapporo, Japan
SOURCE: Chemical & Pharmaceutical Bulletin (1978), 26(11), 3322-9
CODEN: CPBTAL; ISSN: 0009-2363
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Starting from 1-β-D-ribofuranosyl-2-oxo-4-imidazoline-4-carboxylic acid (I), obtained from uridine, various 2,5'-O-cycloimidazole nucleosides have been prepared The 2-oxo function of I was also converted to the 2-chloro and 2-thione functions. Whereas the CD spectra of I and related 2-oxo derivs. exhibited neg. bands, their 5-bromo derivs. showed pos. bands. All 2,5'-O-cycloimidazole nucleosides showed strong neg. CD bands which were in contrast to the results in the 8,5'-O-cyclopurine nucleosides. The relationship between the sign of the CD bands and the orientation of the base moieties in imidazole nucleosides was discussed.

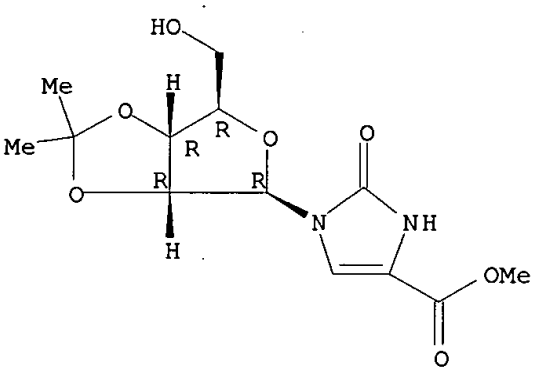
IT **19556-57-1**
RL: RCT (Reactant); RACT (Reactant or reagent)
(acetylation of)
RN 19556-57-1 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 2,3-dihydro-2-oxo-1-β-D-ribofuranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



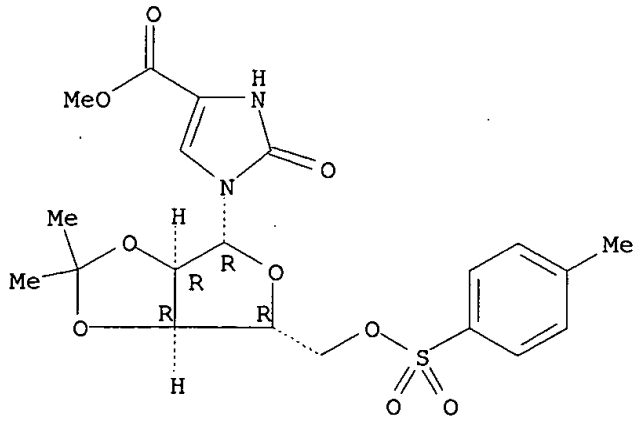
IT **66191-29-5P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and ammonolysis of)
RN 66191-29-5 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 2,3-dihydro-1-[2,3-O-(1-methylethylidene)-β-D-ribofuranosyl]-2-oxo-, methyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



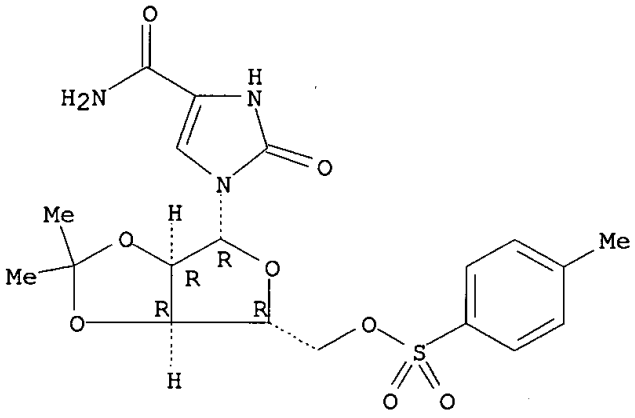
IT **69565-65-7P 69565-73-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and cyclization of)
RN 69565-65-7 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 2,3-dihydro-1-[2,3-O-(1-methylethylidene)-5-O-[(4-methylphenyl)sulfonyl]-β-D-ribofuranosyl]-2-oxo-, methyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



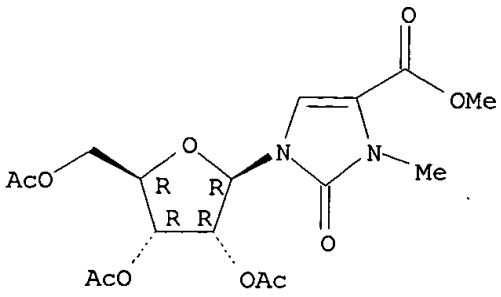
RN 69565-73-7 CAPLUS
CN 1H-Imidazole-4-carboxamide, 2,3-dihydro-1-[2,3-O-(1-methylethylidene)-5-O-[(4-methylphenyl)sulfonyl]-β-D-ribofuranosyl]-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



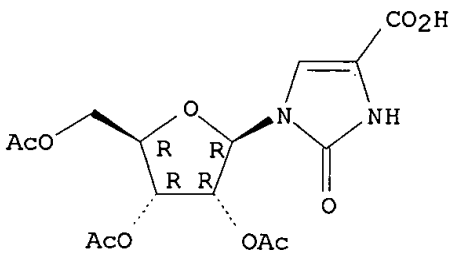
IT **69565-62-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and deacetylation of)
RN 69565-62-4 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 2,3-dihydro-3-methyl-2-oxo-1-(2,3,5-tri-O-acetyl-β-D-ribofuranosyl)-, methyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



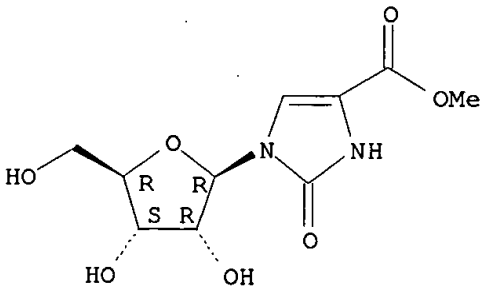
IT **66191-27-3P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and esterification of)
RN 66191-27-3 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 2,3-dihydro-2-oxo-1-(2,3,5-tri-O-acetyl-β-D-ribofuranosyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **69565-64-6P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and isopropylidenation of)
RN 69565-64-6 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 2,3-dihydro-2-oxo-1-β-D-ribofuranosyl-, methyl ester (9CI) (CA INDEX NAME)

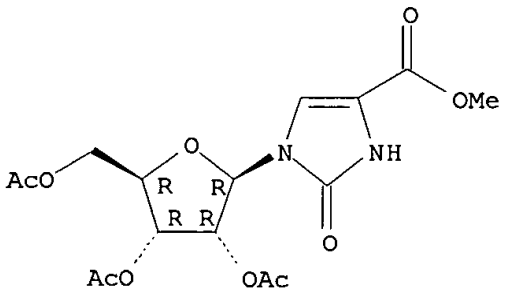
Absolute stereochemistry.



IT **63542-20-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

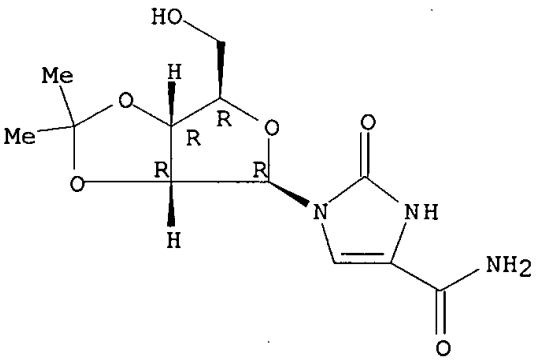
(Reactant or reagent)
(preparation and methylation of)
RN 63542-20-1 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 2,3-dihydro-2-oxo-1-(2,3,5-tri-O-acetyl-β-D-ribofuranosyl)-, methyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



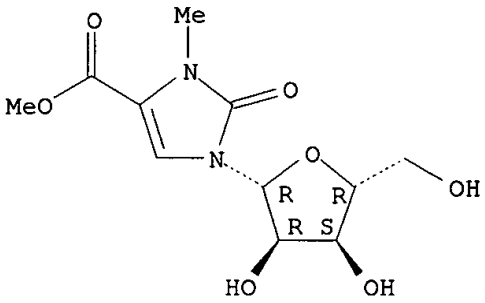
IT **66191-30-8P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and tosylation of)
RN 66191-30-8 CAPLUS
CN 1H-Imidazole-4-carboxamide, 2,3-dihydro-1-[2,3-O-(1-methylethylidene)-β-D-ribofuranosyl]-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

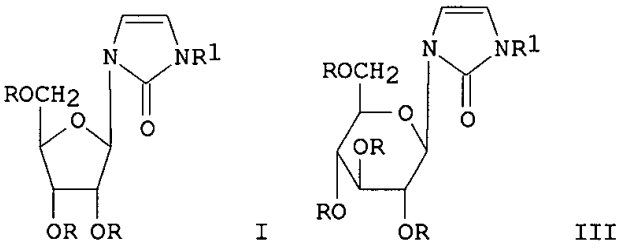


IT **69565-63-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 69565-63-5 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 2,3-dihydro-3-methyl-2-oxo-1-β-D-ribofuranosyl-, methyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L3 ANSWER 26 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1978:563884 CAPLUS
DOCUMENT NUMBER: 89:163884
TITLE: Nucleic acid components and their analogs. Part CXCII. Glycosides of 4-imidazolin-2-one
AUTHOR(S): Novak, Jiri J. K.
CORPORATE SOURCE: Inst. Org. Chem. Biochem., Czech. Acad. Sci., Prague, Czech.
SOURCE: Collection of Czechoslovak Chemical Communications (1978), 43(6), 1511-19
CODEN: CCCCAK; ISSN: 0366-547X
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



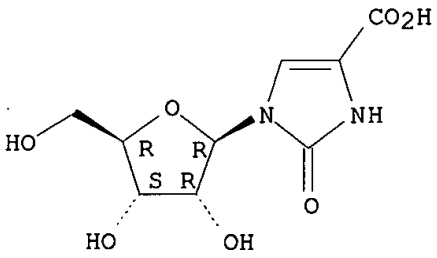
I III

AB The reaction of 1-acetyl-3-(trimethylsilyl)-4-imidazolin-2-one with 2,3,5-tri-O-benzoyl-D-ribofuranose in the presence of SnCl2 gave 51% 1-acetyl-3-(2,3,5-tri-O-benzoyl-β-D-ribofuranosyl)-4-imidazolin-2-one (I; R1 = Ac, R = Bz) (II) and 27% 1-(2,3,5-tri-O-benzoyl-β-D-ribofuranosyl)-4-imidazolin-2-one (I; R1 = H, R = Bz), and with pentaacetylglucose giving 12% 1-acetyl-3-(2,3,4,6-tetra-O-acetyl-β-D-glucopyranosyl)-4-imidazolin-2-one (III; R = R1 = Ac) (IV) and 32% 1-(2,3,4,6-tetra-O-acetyl-β-D-glucopyranosyl)-4-imidazolin-2-one (III; R = Ac, R1 = H). The deprotected nucleosides I and III (R = R1 = H) were obtained in yields of 61 and 83%, resp., from II or IV in MeOH-NH3. Preparation of 1,3-di-4-toluoyl-4-imidazolin-2-one and 1-benzyl-4-imidazolin-2-one is described. The β-configuration of the nucleosides was determined by NMR and chem. transformations.

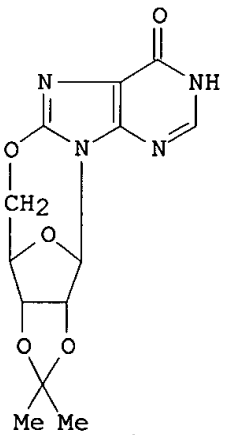
IT **19556-57-1**
RL: RCT (Reactant); RACT (Reactant or reagent)
(decarboxylation of)

RN 19556-57-1 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 2,3-dihydro-2-oxo-1-β-D-ribofuranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L3 ANSWER 27 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1978:170427 CAPLUS
DOCUMENT NUMBER: 88:170427
TITLE: Conversion of uridine to purine nucleosides
AUTHOR(S): Tanaka, Hiromichi; Ueda, Tohru
CORPORATE SOURCE: Fac. Pharm. Sci., Hokkaido Univ., Sapporo, Japan
SOURCE: Nucleic Acids Research, Special Publication (1977), 3, 17-20
CODEN: NARPD6; ISSN: 0309-1872
DOCUMENT TYPE: Journal
LANGUAGE: English
GI

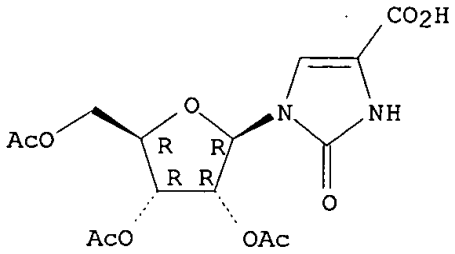


I

AB Starting from uridine, 8,5'-anhydro-8-hydroxy-2',3'-O-isopropylideneinosine (I) and -xanthosine were synthesized. The key step of these conversions is the coupling of benzenediazonium salt with a 1-β-D-ribofuranosyl-2-oxo-4-imidazoline-4-carboxamide derivative obtained from uridine.

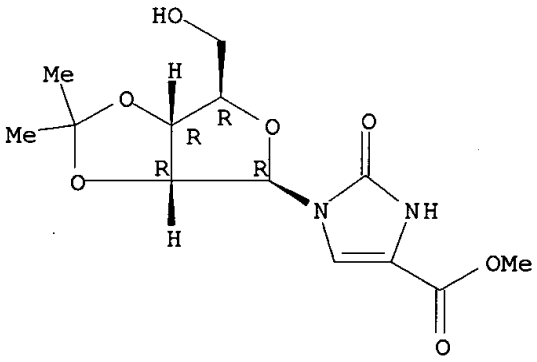
IT **66191-27-3P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and esterification of, with diazomethane)
RN 66191-27-3 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 2,3-dihydro-2-oxo-1-(2,3,5-tri-O-acetyl-β-D-ribofuranosyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



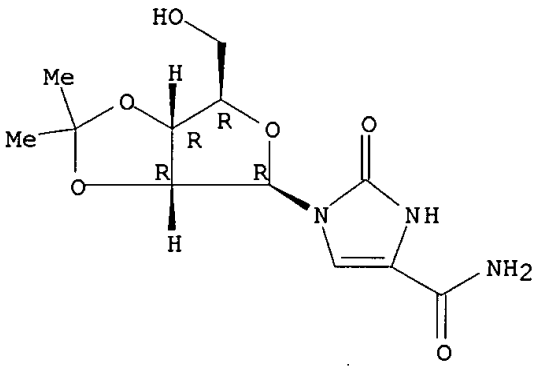
IT **66191-29-5P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with ammonia)
RN 66191-29-5 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 2,3-dihydro-1-[2,3-O-(1-methylethylidene)-β-D-ribofuranosyl]-2-oxo-, methyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



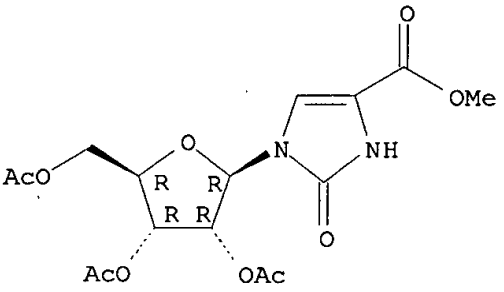
IT **66191-30-8P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with benzenediazonium salt)
RN 66191-30-8 CAPLUS
CN 1H-Imidazole-4-carboxamide, 2,3-dihydro-1-[2,3-O-(1-methylethylidene)-β-D-ribofuranosyl]-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

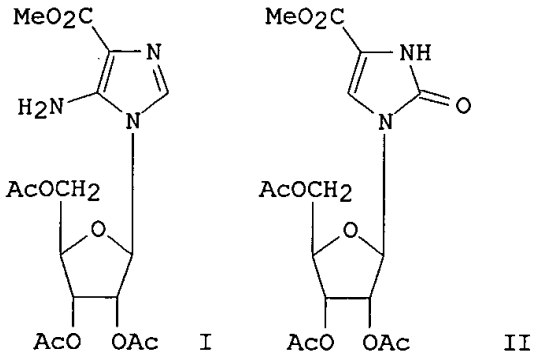


IT **63542-20-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation, bromination, and deacetylation of)
RN 63542-20-1 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 2,3-dihydro-2-oxo-1-(2,3,5-tri-O-acetyl-β-D-ribofuranosyl)-, methyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L3 ANSWER 28 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1977:536238 CAPLUS
DOCUMENT NUMBER: 87:136238
TITLE: An unusual rearrangement during diazotization of a 5-aminoimidazole nucleoside
AUTHOR(S): Srivastava, Prem C.; Rousseau, Robert J.; Robins, Roland K.
CORPORATE SOURCE: Nucleic. Acid Res. Inst., ICN Pharm. Inc., Irvine, CA, USA
SOURCE: Journal of the Chemical Society, Chemical Communications (1977), (5), 151-2
CODEN: JCCCAT; ISSN: 0022-4936
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



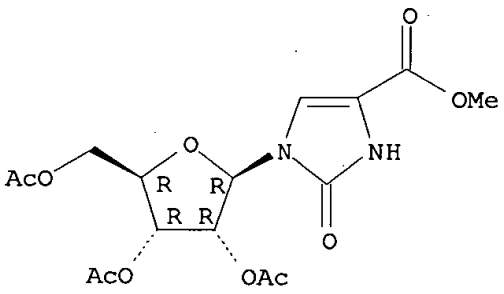
AB Diazotization of the aminoimidazole nucleoside I gave the rearranged product II rather than the expected hydroxy derivative

IT **63542-20-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and ammonolysis of)

RN 63542-20-1 CAPLUS

CN 1H-Imidazole-4-carboxylic acid, 2,3-dihydro-2-oxo-1-(2,3,5-tri-O-acetyl-β-D-ribofuranosyl)-, methyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

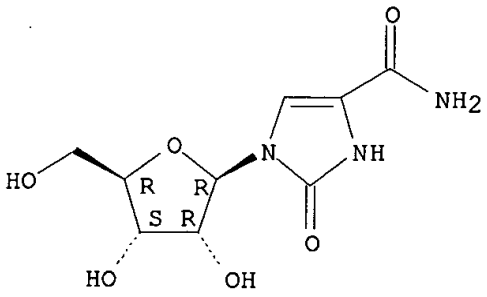


IT **63542-21-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 63542-21-2 CAPLUS

CN 1H-Imidazole-4-carboxamide, 2,3-dihydro-2-oxo-1-β-D-ribofuranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

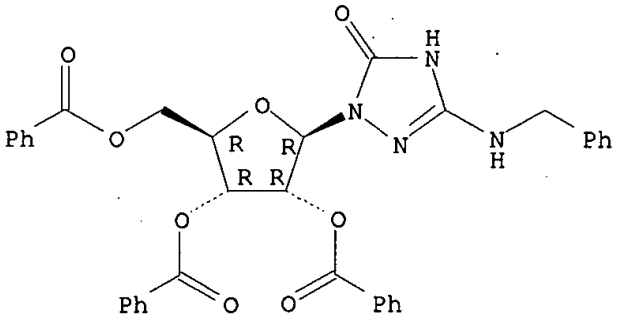


L3 ANSWER 29 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1975:497822 CAPLUS
DOCUMENT NUMBER: 83:97822
TITLE: Syntheses of nucleosides. XIV. Amination of heterocycles. I. New simple synthesis of cytidines
AUTHOR(S): Vorbrueggen, Helmut; Krolikiewicz, Konrad; Niedballa, Ulrich
CORPORATE SOURCE: Forschungslab., Schering A.-G., Berlin, Fed. Rep. Ger.
SOURCE: Justus Liebigs Annalen der Chemie (1975), (5), 988-1002
CODEN: JLACBF; ISSN: 0075-4617
DOCUMENT TYPE: Journal
LANGUAGE: German

AB Cytidines were prepared by persilylation of free or acetylated uridines or uridine 5'-phosphates of the OH groups of the sugar moiety and the phosphate group followed by treatment with NH3 or primary or secondary amines. Thus, uridine reacted with (Me3Si)2NH and NH3 in an autoclave for 0.5 hr at 24° and 16 atm and 48 hr at 162° and 26 atm to give 72.5% cytidine.

IT **56982-74-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 56982-74-2 CAPLUS
CN 3H-1,2,4-Triazol-3-one, 2,4-dihydro-5-[(phenylmethyl)amino]-2-(2,3,5-tri-O-benzoyl-β-D-ribofuranosyl)- (9CI) (CA INDEX NAME)

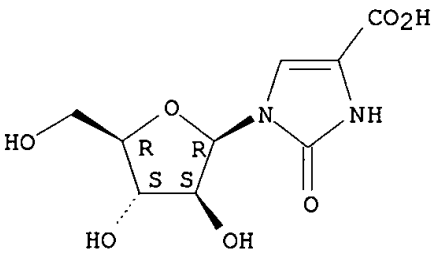
Absolute stereochemistry.



L3 ANSWER 30 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1975:140416 CAPLUS

DOCUMENT NUMBER: 82:140416
TITLE: Alteration of 5-chloropyrimidine nucleosides in alkaline media
AUTHOR(S): Kikugawa, Kiyomi; Kawada, Isako; Ichino, Motonobu
CORPORATE SOURCE: Res. Lab., Kohjin Co., Ltd., Tokyo, Japan
SOURCE: Chemical & Pharmaceutical Bulletin (1975), 23(1), 35-41
CODEN: CPBTAL; ISSN: 0009-2363
DOCUMENT TYPE: Journal
LANGUAGE: English
GI For diagram(s), see printed CA Issue.
AB 5-Chlorouridine (I), 5-chlorocytidine (II), and 5-chloro-1-β-D-arabinofuranosylcytosine (III) were obtained in 61, 61, and 11.2% yields, resp., by reaction of pyrimidine nucleosides with N-chlorosuccinimide. 2,2'-Anhydro-5-chloro-1-β-D-arabinofuranosylcytosine (IV, R = Cl) (V) was prepared in 53% yield by reaction of II with Vilsmeier-Haack reagent. 5-Chloropyrimidine nucleosides (I, 5-chloro-1-β-D-arabinofuranosyluracil, II, and III) degrade in aqueous alkali (1 N NaOH) at 50° via deamination or 6,2' (or 5')-anhydro open-chain ureido compds. II was more readily degraded in 0.3 N KOH at 37° than non-chlorinated VI. The treatment of V with 0.1 N NaOH at room temperature afforded IV (R = OH) without splitting the anhydro bond.
IT **17245-46-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 17245-46-4 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 1-β-D-arabinofuranosyl-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L3 ANSWER 31 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1972:402049 CAPLUS
DOCUMENT NUMBER: 77:2049
TITLE: 5-Hydroxyuridine (isobarbituridine). V. Uretidinedione, imidazoline, and dihydrouracil derivatives of the alkaline modification of 5-hydroxyuridine
AUTHOR(S): Hayes, Sidney J.; Lis, Adam W.
CORPORATE SOURCE: Med. Sch., Univ. Oregon, Portland, OR, USA
SOURCE: Physiological Chemistry and Physics (1971), 3(6), 517-35
CODEN: PLCHB4; ISSN: 0031-9325
DOCUMENT TYPE: Journal
LANGUAGE: English

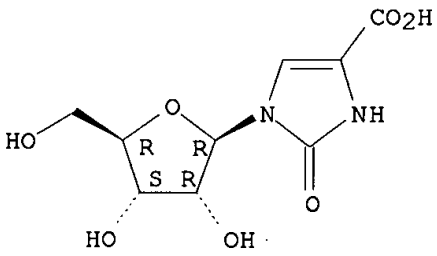
AB The stability and reactivity of 5-hydroxyuridine (isobarbituridine) under alkaline RNA digestion conditions was investigated. Identified alteration products formed from 5-hydroxyuridine included uretidinedione, imidazoline, and dihydrouracil derivs. Among the derivs. which have not so far been identified, the most prominent was "Compound R" with absorbance maximum at 307 and 319 nm in acid and alkali, resp. A reactive intermediate of 5-hydroxyuridine, formed under alkaline conditions, reacted with NH3 and cytidine. This unstable intermediate was presumably 5,5-dihydroxydihydrouridine, a hydrated form of 5-hydroxyuridine, which can further react to form the variety of derivs. found. The loss of UV absorbance of 5-hydroxyuridine under alkaline conditions was due to nucleophilic attack subsequent to dissociation of the 5-OH proton rather than mol. transformation as a consequence of proton abstraction. The reactivity of the monoanion differed from that of the dianion.

IT **19556-57-1P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and properties of)

RN 19556-57-1 CAPLUS

CN 1H-Imidazole-4-carboxylic acid, 2,3-dihydro-2-oxo-1-β-D-ribofuranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L3 ANSWER 32 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1970:466847 CAPLUS

DOCUMENT NUMBER: 73:66847

TITLE: Chemical synthesis of the 1,2,4-triazole nucleosides related to uridine, 2'-deoxyuridine, thymidine, and cytidine

AUTHOR(S): Witkowski, Joseph T.; Robins, Roland K.

CORPORATE SOURCE: Dep. of Chem., Univ. of Utah, Salt Lake City, UT, USA

SOURCE: Journal of Organic Chemistry (1970), 35(8), 2635-41
CODEN: JOCEAH; ISSN: 0022-3263

DOCUMENT TYPE: Journal

LANGUAGE: English

GI For diagram(s), see printed CA Issue.

AB The synthesis of 1-(β-D-ribofuranosyl)urazole (I), 1-(2-deoxy-β-D-ribofuranosyl)urazole (II), and 1-(2-deoxy-β-D-ribofuranosyl)-2-methylurazole (III) was accomplished via the trimethylsilyl derivs. of urazole and 1-methylurazole. The synthesis of the corresponding nucleoside related to cytidine, 3-amino-1-(β-D-ribofuranosyl)-1,2,4-triazolin-5-one was accomplished in a lengthy procedure involving 3-bromo-5-nitro-1,2,4-triazole in the fusion process. Evidence in support of the site of glycosylation was presented. The reaction mechanism involved in the various glycosylation procedures of the

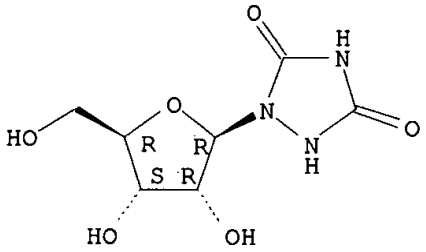
1,2,4-triazole ring was discussed.

IT **24806-83-5P 24806-84-6P 24806-85-7P**
24806-92-6P 24807-01-0P 24807-02-1P
24854-62-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 24806-83-5 CAPLUS

CN 1,2,4-Triazolidine-3,5-dione, 1-β-D-ribofuranosyl- (9CI) (CA INDEX NAME)

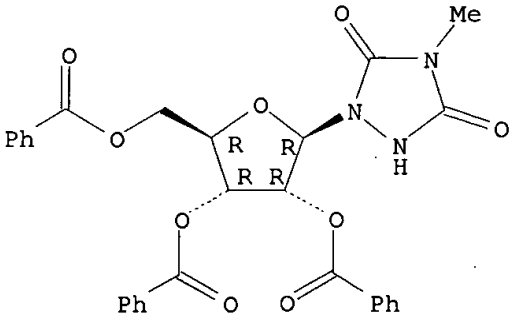
Absolute stereochemistry.



RN 24806-84-6 CAPLUS

CN Bicarbamimide, N-methyl-2-β-D-ribofuranosyl-, 2',3',5'-tribenzoate (8CI) (CA INDEX NAME)

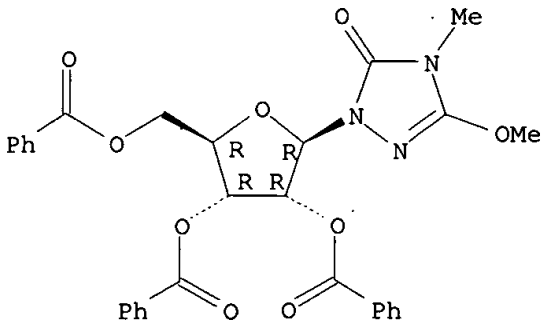
Absolute stereochemistry.



RN 24806-85-7 CAPLUS

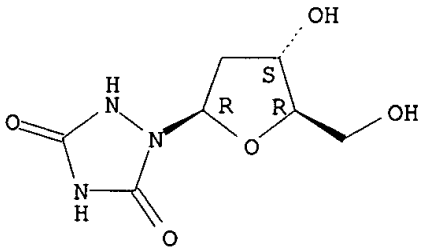
CN δ2-1,2,4-Triazolin-5-one, 3-methoxy-4-methyl-1-β-D-ribofuranosyl-, 2',3',5'-tribenzoate (8CI) (CA INDEX NAME)

Absolute stereochemistry.



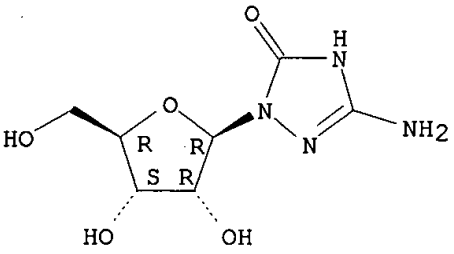
RN 24806-92-6 CAPLUS
CN Bicarbamimide, 2-(2-deoxy-β-D-erythro-pentofuranosyl)- (8CI) (CA INDEX NAME)

Absolute stereochemistry.



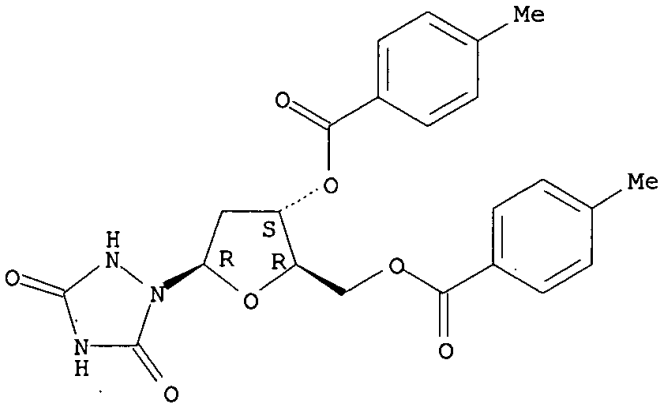
RN 24807-01-0 CAPLUS
CN δ2-1,2,4-Triazolin-5-one, 3-amino-1-β-D-ribofuranosyl- (8CI) (CA INDEX NAME)

Absolute stereochemistry.



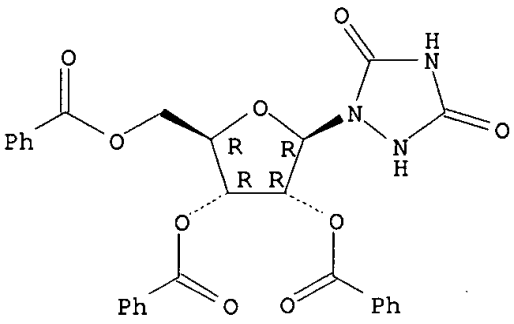
RN 24807-02-1 CAPLUS
CN Bicarbamimide, 2-(2-deoxy-β-D-erythro-pentofuranosyl)-, 3',5'-di-p-toluate (8CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 24854-62-4 CAPLUS
CN Bicarbamimide, 2-β-D-ribofuranosyl-, 2',3',5'-tribenzoate (8CI) (CA INDEX NAME)

Absolute stereochemistry.

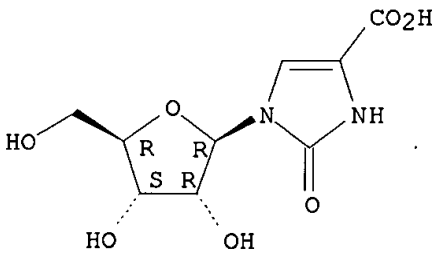


L3 ANSWER 33 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1970:44061 CAPLUS
DOCUMENT NUMBER: 72:44061
TITLE: Nucleosides. LXI. Transformations of pyrimidine nucleosides in alkaline media. IV. Conversion of 5-hydroxyuridines into imidazoline nucleosides
AUTHOR(S): Otter, Brian A.; Falco, Elvira A.; Fox, Jack J.
CORPORATE SOURCE: Sloan Kettering Inst. for Cancer Res., New York, NY, USA
SOURCE: Journal of Organic Chemistry (1969), 34(9), 2636-42
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English
AB O-Isopropylidene-5-hydroxyuridine and 1-methyl-5-hydroxyuracil undergo a benzilic acid rearrangement and dehydration in 0.1N NaOH at 100° t o give the corresponding 1-substituted 2-oxo-4-imidazoline-4-carboxylic acids. 1,3-Dimethyl-and 1-methyl-3-benzyl-5-hydroxyuracil are converted under these conditions into the corresponding 1,3-disubstituted 4-hydroxy-2-oxoimidazolidine-4-carboxylic acids (I and II, resp.). II was converted into the crystalline Me ester by treatment with CH2N2. The I and II undergo acid-catalyzed dehydration to give the 1,3-disubstituted

2-oxo-4-imidazoline-4-carboxylic acids. Evidence for the existence of the tautomeric 5-keto forms of the 5-hydroxyuracil derivs. necessary for benzilic acid rearrangement is presented. The 5-hydroxyuracil derivs. are prepared by treatment of the corresponding 5-bromouracils with CO2- buffered NaHCO3 at 100°. In unbuffered NaHCO3 solution 5-bromo-O-isopropylideneuridine and 5-bromo-2'-deoxyuridine (III) are converted via their 5-OH derivs. into the 2-oxo-4-imidazoline-4-carboxylic acid nucleosides. The potential application of this rearrangement to DNA containing III instead of thymidine is discussed. An in situ method for the conversion of uridine into an imidazoline nucleo side is described. Uv spectral and pKa data for the 5-hydroxyuracil derivs. are given.

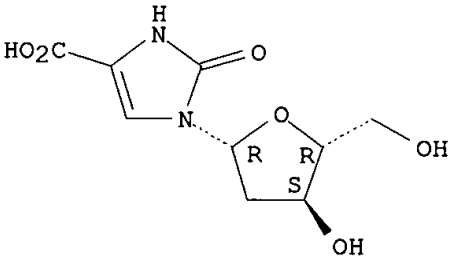
IT **19556-57-1P 20406-83-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 19556-57-1 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 2,3-dihydro-2-oxo-1-β-D-ribofuranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 20406-83-1 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 1-(2-deoxy-β-D-erythro-pentofuranosyl)-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



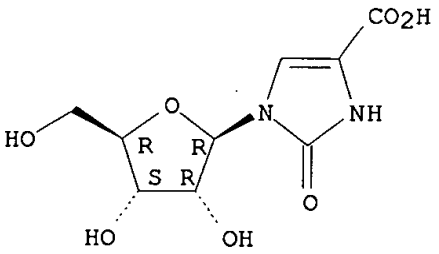
L3 ANSWER 34 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1969:422289 CAPLUS
DOCUMENT NUMBER: 71:22289
TITLE: Nucleosides. LVIII. Transformations of pyrimidine nucleosides in alkaline media. 3. Conversion of 5-halouridines into imidazoline and barbituric acid nucleosides
AUTHOR(S): Otter, Brian A.; Falco, Elvira A.; Fox, Jack J.

CORPORATE SOURCE: Sloan-Kettering Inst. for Cancer Res., New York, NY, USA
SOURCE: Journal of Organic Chemistry (1969), 34(5), 1390-6
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Reaction of 5-bromo-2',3'-O-isopropylideine-uridine (I) with alkoxide affords 5',6-anhydro-6-hydroxy-2',3'-O-isopropylideneuridine (II) which is converted by acid hydrolysis into 1-β-D-ribofuranosylbarbituric acid ("6-hydroxyuridine") in high over-all yield. Treatment of II with NaOBzHCONMe2 gives the 5'-O-benzoate of 6-hydroxy-isopropylidene-uridine. In aqueous alkali, 5-fluoro-2',3'-O-isopropylideneuridine (III) is converted into 1-(2,3-O-isopropylidene-β-D-ribofuranosyl)-2-oxo-4-imizalone-4-carboxylic acid (IV) which, after acid hydrolysis, gives the unblocked imidazoline ribonucleoside (V) in good over-all yield. A total synthesis of V via condensation of Me 2-oxo-4-imidazoline-4-carboxylate with tri-O-benzoyl-D-ribofuranosyl chloride is given. Unlike III, I and the 5-iodo (VI) analog in aqueous alkali give poor yields of IV along with other 2',3'-O-isopropylidenated products, namely II, uridine (VII), 5-hydroxyuridine (VIII), and barbituric acid ribonucleoside (IX). The conversion of I, III, and VI into VII, VIII, and IV involves anchimeric assistance by the 5-OH group of the sugar moiety and the presence of a 2',3'-O-isopropylidene group promotes this participation. Evidence obtained from a study of the 5'-deoxy analog of I suggests that the formation of IX from I or VI occurs mainly by direct attack by OH- on C-6 and to a lesser extent by solvolysis of II.

IT **19556-57-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 19556-57-1 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 2,3-dihydro-2-oxo-1-β-D-ribofuranosyl- (9CI) (CA INDEX NAME)

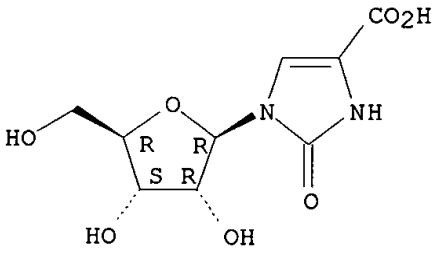
Absolute stereochemistry.



L3 ANSWER 35 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1969:4505 CAPLUS
DOCUMENT NUMBER: 70:4505
TITLE: Nucleosides. LI. Novel transformations of the pyrimidine moiety of ribonucleosides
AUTHOR(S): Otter, Brian A.; Falco, Elvira A.; Fox, Jack J.
CORPORATE SOURCE: Cornell Univ. Med. Coll., Ithaca, NY, USA
SOURCE: Tetrahedron Letters (1968), (25), 2967-70
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal

LANGUAGE: English
GI For diagram(s), see printed CA Issue.
AB Treatment of I (R = Br) (Ia) with excess NaOEt in hot alc. 17 hrs. gave 90% II, m. 251-3°. Treatment of II with warm dilute HCl gave 85% 1-β-D-ribofuranosylbarbituric acid as the monoethanolate, m. 116-18°. Treatment of II with NaOBz in HCONMe2 gave the 5'-benzoate of 1-(2,3-O-isopropylidene-β-D-ribosyl)-barbituric acid, m. 163-6°. Treatment of Ia with 0.1N NaOH at 100° followed by removal of the isopropylidene group gave 45% 1-(α-D-ribofuranosyl)-2-oxo-4-imidazoline-4-carboxylic acid (III) as the monohydrate, m. 107-10°. Refluxing Ia in 0.15N NaHCO3 under CO2 gave I (R = OH) (Ib), while the reaction of Ia with NaHCO3 under N produced Ib which slowly disappeared, together with III, suggesting the transformation of an isobarbituric acid nucleoside to an imidazoline. Refluxing Ib with dilute HCO3- or 0.1N NaOH gave III, while Ib was stable 24 hrs. in N NaOH at 55°. Treatment of Ia with N NaOH at 55° gave a mixture containing isopropylidenated III, II, and a small amount of Ib
A
reaction mechanism for this transformation was suggested.
IT **19556-57-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 19556-57-1 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 2,3-dihydro-2-oxo-1-β-D-ribofuranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L3 ANSWER 36 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1968:497077 CAPLUS
DOCUMENT NUMBER: 69:97077
TITLE: Nucleosides. LII. Transformations of pyrimidine nucleosides in alkaline media. 1. Conversion of 5-haloarabinosyluracils to imidazoline nucleosides
AUTHOR(S): Otter, Brian A.; Falco, Elvira A.; Fox, Jack J.
CORPORATE SOURCE: Med. Coll., Cornell Univ., New York, NY, USA
SOURCE: Journal of Organic Chemistry (1968), 33(9), 3593-600
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English
GI For diagram(s), see printed CA Issue.
AB The reactions of 1-(β-D-arabinofuranosyl)-5-halouracils in alkali were investigated under various conditions. The 5-fluorouracil nucleoside is stable in hot NaOMe solution, whereas the 5-bromo analog (I) is converted in high yield into 2',6-anhydro-1-(β-D-arabinofuranosyl)-6-

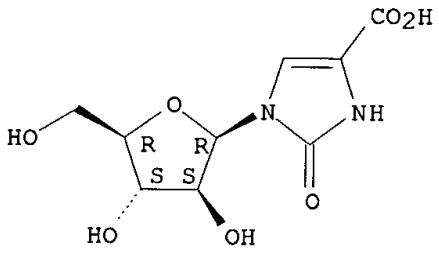
hydroxyuridine (II). II is also formed in low yield when I is treated with warm aqueous NaOH. The major product of this aqueous reaction was 1-(β-D-arabinofuranosyl)-2-oxo-4-imidazoline-4-carboxylic acid (III). III was also prepared under similar conditions by ring closure of the 2',6-anhydro acyclic ureide. The structure of III was elucidated from chem. and N.M.R. evidence and by comparison of the uv spectral and pKa data of III and its derivs. with that of model N-alkylated imidazolinecarboxylic acids. Mechanisms involving attack of the 2'-hydroxyl group on C-6 of the pyrimidine ring are suggested for these novel transformations. 5-Bromomethyluracil does not undergo rearrangement to an imidazolinecarboxylic acid when treated with aqueous alkali but is converted into 1-methylbarbituric acid. Imidazoline nucleosides were also prepared by total synthesis. Condensation of tetra-O-acetyl-α-D-glucopyranosyl bromide with Me 2-oxo-4-imidazoline-4-carboxylate affords a mixture of N-1 and N-3 glucosylated imidazoline derivs. As with pyrimidine nucleosides, uv spectral shifts in the highly alkaline region were observed with the III 3-Me derivative These shifts are attributed to the effects of ionization of the sugar moiety on the aglycon. 22 references.

IT **17245-46-4P 17245-48-6P 17245-49-7P**
17245-51-1P 17245-54-4P 17245-55-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 17245-46-4 CAPLUS

CN 1H-Imidazole-4-carboxylic acid, 1-β-D-arabinofuranosyl-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

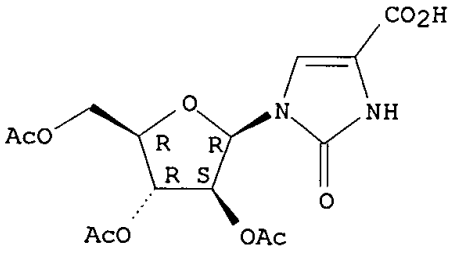
Absolute stereochemistry.



RN 17245-48-6 CAPLUS

CN 1H-Imidazole-4-carboxylic acid, 2,3-dihydro-2-oxo-1-(2,3,5-tri-O-acetyl-β-D-arabinofuranosyl)- (9CI) (CA INDEX NAME)

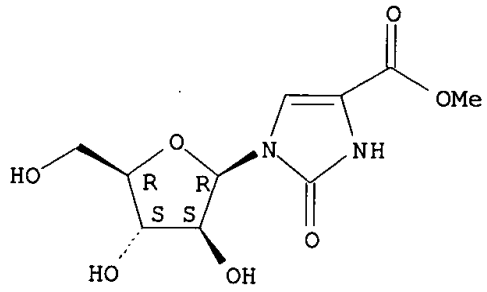
Absolute stereochemistry.



RN 17245-49-7 CAPLUS

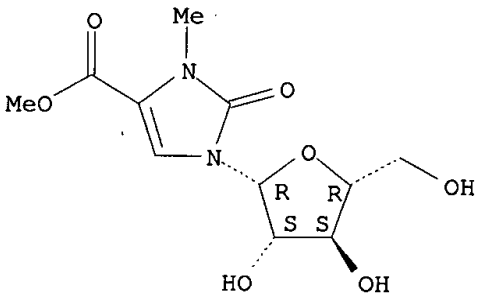
CN 4-Imidazoline-4-carboxylic acid, 1-β-D-arabinofuranosyl-2-oxo-, methyl ester (8CI) (CA INDEX NAME)

Absolute stereochemistry.



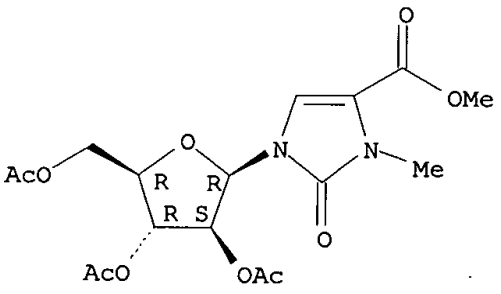
RN 17245-51-1 CAPLUS
CN 4-Imidazoline-4-carboxylic acid, 1-β-D-arabinofuranosyl-3-methyl-2-oxo-, methyl ester (8CI) (CA INDEX NAME)

Absolute stereochemistry.



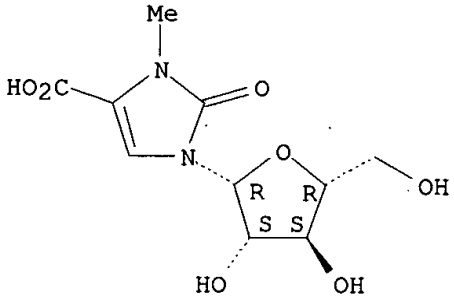
RN 17245-54-4 CAPLUS
CN 4-Imidazoline-4-carboxylic acid, 1-β-D-arabinofuranosyl-3-methyl-2-oxo-, methyl ester, 2',3',5'-triacetate (8CI) (CA INDEX NAME)

Absolute stereochemistry.



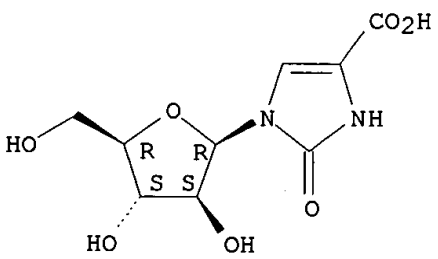
RN 17245-55-5 CAPLUS
CN 4-Imidazoline-4-carboxylic acid, 1-β-D-arabinofuranosyl-3-methyl-2-oxo- (8CI) (CA INDEX NAME)

Absolute stereochemistry.



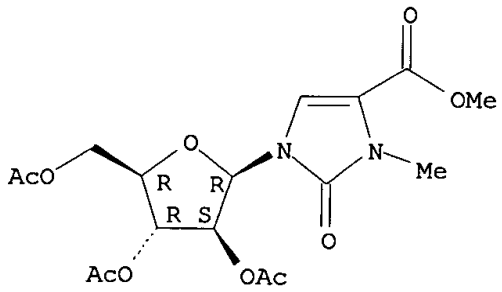
L3 ANSWER 37 OF 37 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1968:22182 CAPLUS
DOCUMENT NUMBER: 68:22182
TITLE: Nucleosides. XLII. Nucleoside rearrangement. Formation of 2-oxo-4-imidazoline-4-carboxylic acid
AUTHOR(S): Otter, Brian A.; Fox, Jack J.
CORPORATE SOURCE: Sloan-Kettering Inst. for Cancer Res., New York, NY, USA
SOURCE: Journal of the American Chemical Society (1967), 89(14), 3363-4
CODEN: JACSAT; ISSN: 0002-7863
DOCUMENT TYPE: Journal
LANGUAGE: English
GI For diagram(s), see printed CA Issue.
AB 1-β-D-Arabinofuranosyl-5-fluorouracil (I) and its 5-fluorocytosine analog, are transformed in warm 0.1N NaOH solution to the 6,2'-anhydro, open-chain ureide (II). (CA 66: 29037r). When II was heated in N NaOH solution at 60° for 20 hrs. a new product (III) was formed, which was F-free. III (61%) was also obtained after 3 hrs. under similar reaction conditions, directly from the known 1-β-D-arabinofuranosyl-5-bromouracil (IV). The properties of II have been investigated. III was 1-(β-D-arabinofuranosyl)-2-oxo-4-imidazoline-4-carboxylic acid and the over-all formation of III from I or IV involved a ring contraction hitherto unreported in the nucleoside area.
IT **17245-46-4P 17245-54-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 17245-46-4 CAPLUS
CN 1H-Imidazole-4-carboxylic acid, 1-β-D-arabinofuranosyl-2,3-dihydro-2-oxo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



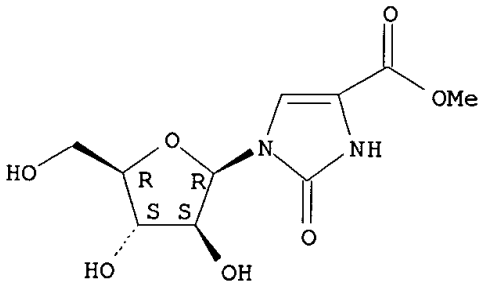
RN 17245-54-4 CAPLUS
CN 4-Imidazoline-4-carboxylic acid, 1-β-D-arabinofuranosyl-3-methyl-2-oxo-, methyl ester, 2',3',5'-triacetate (8CI) (CA INDEX NAME)

Absolute stereochemistry.



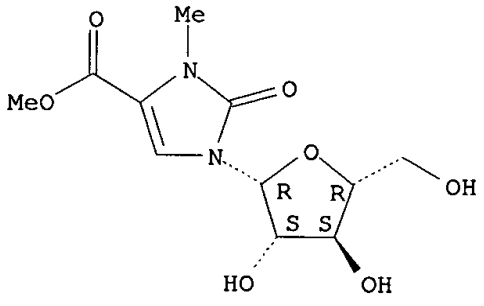
IT **17245-49-7 17245-51-1 17245-55-5**
RL: PRP (Properties)
(spectrum (uv) of)
RN 17245-49-7 CAPLUS
CN 4-Imidazoline-4-carboxylic acid, 1-β-D-arabinofuranosyl-2-oxo-, methyl ester (8CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 17245-51-1 CAPLUS
CN 4-Imidazoline-4-carboxylic acid, 1-β-D-arabinofuranosyl-3-methyl-2-oxo-, methyl ester (8CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 17245-55-5 CAPLUS
CN 4-Imidazoline-4-carboxylic acid, 1-β-D-arabinofuranosyl-3-methyl-2-oxo- (8CI) (CA INDEX NAME)

Absolute stereochemistry.